8025

Diag. Cht. Nos. 5402-2, 5502-2, & 5530-5.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. BO-1254 *Office No.* H-8025

LOCALITY

State California

General locality San Francisco Bay

Locality Hunters Point to S. F. International Airport

19~~4~~ 54-55

CHIEF OF PARTY

H.C.Applequist, C.A.George, & H.G. ~~Conerly~~.

LIBRARY & ARCHIVES

DATE May 8, 1956

B-1870-1 (1)

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No. H-8025

Field No. BB-1254

State CALIFORNIA

General locality SAN FRANCISCO BAY

Locality HUNTERS PT. TO S.F. INTERNATIONAL AIRPORT ~~SAN FRANCISCO BAY, SOUTHERN PART~~

Scale 1:10,000 Date of survey June to Nov. 1954 4 Jan. to 1 Mar. 1955

Instructions dated 20 January 1947, 24 April 1947 & 25 February 1954

Vessel Ship BOWIE & West Coast Field Party

Chief of party H.C.Applequist, C.A.George & H.G.Conerly

Surveyed by G.E.Cook, K.A.MacDonald, C.D.Upham & H.L.Runge

Soundings taken by fathometer, graphic recorder ~~Hand lead, Wire~~

Fathograms scaled by various

Fathograms checked by various

Protracted by C.E.Pedersen

Soundings penciled by C.E.Pedersen

Soundings in ~~fathoms~~ feet at ~~MLW~~ MLLW and are true depths

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 693019

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY REGISTER NO. H - 8025
(Field No. BO-1254)

San Francisco Bay, California
Scale: 1 : 10,000
Ship BOWIE

Mills Field to Hunters Point
June to November 1954
H.C. Applequist
Chief of Party

Surveyed by G.E. Cook

This report covers the portion surveyed by the Ship BOWIE.

PROJECT:

This hydrographic survey was executed in accordance with the Director's instructions dated 20 January 1947, supplemental instructions dated 24 April 1947 and 25 February 1954 for Project CS-256.

SURVEY LIMITS AND DATES:

The general locality of this survey is South San Francisco Bay. The survey extends along the western shore of the Bay from Mills Field northward to Hunters Point, thence eastward to Longitude 122° 19.6 ~~18.4~~, thence southward to the limits of H-6726. The southern limit is along Latitude 37° 37.7 from the limit of H-6726 to the western shore.

Field work commenced 17 June 1954 and continued intermittently during the periods when field work was prevented on the outside coast until 17 November 1954. The survey was then turned over to the West Coast Field Party for completion.

This sheet joins the 1954 surveys, H-8023 and H-8024 to the North, prior survey H-6726 as part of the eastern limit and will join Review, surveys by the West Coast Field Party over the rest of the limits. #4

VESSELS AND EQUIPMENT:

The Ship BOWIE was used one day on the survey. The remainder of the survey was made with Launch No. 122.

Type 808J Fathometers Nos. 144 SP and S-111 were used on the launch and No. 66S on the ship.

TIDE AND CURRENT STATIONS:

A portable automatic tide gage was maintained at South San Francisco (Point San Bruno) for furnishing tidal reducers for this area. A minus twenty minute correction was applied to the tides for the area north of a line extending southeasterly from the most southerly dock at Hunters Point to Latitude 37° 42.0, Longitude 122° 21'. No range correction was applied. Over the remainder of the sheet the tides were applied directly. 20 min advance should apply only to LW; HW remains similar (1943 Tide Prediction)

No current stations were observed.

CONTROL STATIONS:

Triangulation control was furnished by stations listed in the publication "Geographic Positions of Triangulation Stations, California Part VII, San Francisco and Vicinity" and by the 1953 Field Positions by the photogrammetric party of Fred Natella.

Photogrammetric locations of hydrographic stations were taken from manuscripts. T-11064 and T-11066. (1952-53)

The position of signal OBI in φ37°41.89', λ122°24.48' was found to be in error on the manuscript and was relocated by theodolite cuts from triangulation stations. The erroneous position was used for the portion of the work done by the Ship BOWIE. The correct position was determined and plotted just previous to the transfer to the West Coast Field Party. The records for the location are submitted as a part of the records of this sheet. (Records sent to Div. of Geodesy)

SHORELINE AND TOPOGRAPHY:

The shoreline was transferred from (unreviewed) manuscripts. T-11064 and T-11066. (1952-53)

Portions of the small cove north of Candlestick Point are being slowly filled in by refuse dumps. The shoreline in the area was revised by sketching on the boat sheet while engaged in hydrography in the vicinity.

Limits of the fill at Latitude 37° 41.8, Longitude 122° 23.5, were established by sextant fixes while standing upon the fill. Present plans by the California Department of Highways are to extend the fill northward to join the shore and southward to join the existing shore just north of Sierra Point. The southern part of this future fill is scheduled for completion in June 1955.

SOUNDINGS:

All soundings were made with type 808J fathometers. An abstract of corrections is appended to this report.

CONTROL OF HYDROGRAPHY:

The hydrography was controlled by sextant three point fixes taken on signals located by triangulation, photogrammetry and by sextant fixes.

INVESTIGATED SOUNDINGS:

The following depths and features were investigated:

POSITION				CHARTED DEPTH FT.	REMARKS
37°	43.37	122°	21.06	40	Investigated on Sheet H-8023 and not found. (41 about 200 m. northon present survey)
37°	42.92	122°	21.90	9	This general area shoaling. A depth of 8 feet was found close by.
37°	42.80	122°	21.95	5	This sounding probably in error by 1 fathom. The least depth found was 9 feet. Review, #5
37°	42.64	122°	21.88	6	A least depth of 8 feet was found.
37°	42.33	122°	23.04	2	The least depth found was 4 feet.
37°	39.24	122°	22.31	1	The sounding appears in error by 1 fathom. A least depth of 6 feet was found. Review, #5

MISCELLANEOUS:

The Seaplane basin and entrance channel at the San Francisco Municipal Airport was in the process of being dredged at the time of this survey.
One extended line from #8026 (Jan 1955) shows dredged channel of 9ft.

The manuscript position of the derelict barge, Latitude 37° 39'.9, Longitude 122° 22'.8 was in error. The correct position was determined.

This report covers the portion of the work done by the Ship BOWIE prior to the turning over of the survey to the West Coast Field Party.

The report was written in rough form by Ensign G.E. Cook prior to his resignation.

Respectfully submitted:

H.C. Applequist

H.C. Applequist
Commander, USC&GS
Commanding Ship BOWIE

STATISTICS

HYDROGRAPHIC SHEET H-8025 (BO-1254)

Portion surveyed by USC&GSS BOWIE

LAUNCH NO. 122

DATE 1954	DAY LETTER	VOLUME	NO. OF POSITIONS	STATUTE MILES
17 June	a	1	37	-
18 June	b	1	89	8.6
21 June	c	1 & 2	198	35.5
22 June	d	2	186	32.5
8 July	e	2 & 3	186	25.9
13 July	f	3	175	25.5
14 July	g	4	159	24.7
15 July	h	4	137	17.8
30 July	j	5	203	28.0
2 Aug.	k	5& 6	134	20.9
10 Aug.	l	6	181	25.0
18 Aug.	m	6 & 7	183	27.5
19 Aug.	n	7	57	9.3
20 Aug.	p	7	142	15.3
30 Aug.	q	7 & 8	177	20.0
9 Sept.	r	8	187	18.9
21 Sept.	s	8 & 9	158	20.1
23 Sept.	t	9	155	22.9
17 Nov.	u	9	142	16.9
SHIP BOWIE				
22 Sept.	A	10	289	37.8
	TOTALS		3174	434.1

Square Statute Miles 14.0

FATHOMETER CORRECTIONS

The fathometer corrections for Hydrographic Sheets H-8023, H-8024, and H-8025 (BO-05154, BO-1154 and BO-1254) were computed from bar checks taken on or near the working grounds.

The area covered by these sheets was considered as a whole for the purpose of fathometer corrections and all the bar checks taken with the same equipment abstracted. Obviously wild results were rejected and the means taken of the remainders. The final corrections were then selected to the nearest 0.2 foot.

LAUNCH NO. 122 (NO. 4) Cal. 820 fms/sec

Fathometer No. S-111 from 28 April through 30 August.

"A" Scale	"B" Scale
-0.2 from 0 to 10.0 feet	-1.4 from 35.0 to 90.0 feet
-0.4 from 10.1 to 55.0 feet	"C" Scale
	-2.4 for all depths

Fathometer No. S-66 1 day BO-1254: h day BO-05154

"A" Scale	"B"
0.0 from 0.0 to 25 feet	+ 1.0 from 35.0 to 90.0 feet
-0.2 from 25.1 to 55 feet	

Fathometer No. 144-SP j day BO-05154

"A" Scale	"B" Scale
0.0 from 0.0 to 20.0 feet	- 0.5 from 35.0 to 90.0 feet
+ 0.2 from 20.1 to 40.0 feet	
+ 0.4 from 40.1 to 55.0 feet	

LAUNCH NO. 113

Fathometer No. S-66 a day BO-05154 b day (green) BO-1154

"A" Scale	"B" Scale
0.0 from 0 to 55 feet	+ 1.0 from 35 to 90 feet

SHIP BOWIE

Fathometer No. 144-SP A thru D Day BO-1154

"A" Scale	"B" Scale
0.0 from 12.0 to 15.0 feet	0.0 from 35.0 to 55.0 feet
+ 0.2 from 15.1 to 27.0 feet	- 0.2 from 55.0 to 90 feet
0.0 from 27.1 to 55.0 feet	

Fathometer No. S-66, E Day BO-1154: A day BO-1254

"A" Scale	"B" Scale
+ 0.2 from 12 to 20.0 feet	+ 1.0 from 35 to 90 feet
0.0 from 20.1 to 35.0 feet	
-0.2 from 35.1 to 55.0 feet	

APPROVAL SHEET

HYDROGRAPHIC SURVEY H - 8025

The boat sheet was inspected after each days work and the sounding volumes have been inspected and approved.

This approval covers that portion of the work prior to the transfer of this sheet to the West Coast Field Party.

H.C. Applequist
Commander, USC&GS
Commanding Ship BOWIE

LIST OF SIGNALS USED
ON
SHEET BO-1254 REG. H-8025 By Bowie

Name Used in Hydro Survey	Origin of Signal
Add	T-11066 - No. 6675
Act	T-11066 - No. 6653
Abe	BO-B-54
Ago	T-11066 - No. 6601
Ack	T-11064
Bag	BO-B-54
Bat	T-11066 - No. 6652
Bib	T-11066 - No. 6622
Bed	T-11064
Cab	BO-B-54
Caw	T-11066 - No. 6644
Cod	T-11066 - No. 6621
Daw	T-11064 - No. 6413
Dim	T-11066 - No. 6620
Ear	T-11064 - No. 6412
Eat	T-11066
Ebb	T-11066 - No. 6619
Far	T-11064 - No. 6411
Few	T-11066 - No. 6642
Flu	T-11064
Gad	T-11064 - No. 6410
Gag	T-11066 - No. 6641
Gal	T-11066 - No. 6613
Hag	T-11064
Hem	T-11066

LIST OF SIGNALS USED
(Continued)

Name Used in Hydro Survey	Origin of Signal
Her	? Maybe Wer. Source Unknown
Ida	T-11064 - No. 6408
Irk	T-11066 - No. 6614
Jap	T-11066 -
Jay	T-11066 - No. 6615
Jar	T-11066 - No. 6633
Ked	T-11064
Ken	T-11066 - No. 6631
Kid	T-11066 - No. 6611
Lam	T-11064 - No. 6428
Lad	T-11066 - No. 6630
Lax	T-11066 - No. 6610
Low	T-11064
Mag	T-11064 - No. 6402
Mal	T-11066 - No. 6637
Man	T-11066 - No. 6608
Mut	T-11066
Nat	T-11064 - No. 6403
Num	T-11064
Nay	T-11066 - No. 6629
Ned	T-11066 - No. 6617
Odd	T-11066 - No. 6628
Off	T-11066 - No. 6609
Pad	Theodolite Cuts Computed
Pal	T-11066 - No. 6627
Paw	T-11066 - No. 6616

LIST OF SIGNALS USED
(Continuation)

Name Used in Hydro Survey	Origin of Signal
Quo	T-11064 - No. 6424
Ram	T-11064 - No. 6401
Rat	T-11066 - No. 6626
Ray	T-11066 - No. 6651
Rev	T-11066 - No. 6607
Rip	T-11064 - No. 6423
Sag	T-11066
Say	T-11066 - No. 6625
Set	T-11066 - No. 6606
Tap	T-11066 - No. 6654
Tan	T-11066 - No. 6624
Tug	T-11064 - No. 6422
Val	T-11066 - No. 6646
Vet	T-11066 - No. 6634
Via	T-11066 - No. 6605
Wan	T-11066 - No. 6603
Why	T-11064
Yak	T-11066 - No. 6648
Yam	T-11066
Yel	T-11066 - No. 6604
Zag	T-11066 - No. 6602

SUPPLEMENT TO

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY

REGISTERY NO. H-8025, FIELD NO. BO-1254

SAN FRANCISCO BAY, CALIFORNIA

PROJECT CS-256 SCALE 1:10,000

WEST COAST SHORE PARTY C.A. GEORGE - H.G. CONERLY, CHIEF OF PARTY

SURVEYED BY: K.A. MACDONALD, C. D. UPHAM AND H. L. RUNGE

PROJECT

See DESCRIPTIVE REPORT - Ship BOWIE.

SURVEY LIMITS AND DATES

See DESCRIPTIVE REPORT - Ship BOWIE.

Field work began on 4 January 1955 and continued intermittently thru 1 March 1955.

VESSELS AND EQUIPMENT

USC&GS Launch CS-123 was used for all sounding done by this party.

No turning radius was determined for this launch.

808 J type graphic recording fathometers Nos. 152 SPX and 154 SPX, calibrated to 800 fms/sec were used. Acoustic units were fish mounted.

TIDE AND CURRENT STATIONS

See DESCRIPTIVE REPORT - Ship BOWIE.

Tides from the standard automatic tide gage at Hunters Point, California were used to reduce soundings on "d" day (green), 7 January 1955. c day and others could also be improved

See TIDE NOTE, this supplement.

CONTROL STATIONS

See DESCRIPTIVE REPORT - Ship BOWIE.

SHORELINE AND TOPOGRAPHY

See DESCRIPTIVE REPORT - Ship BOWIE.

SOUNDINGS

All soundings were made with 808 J type graphic recording fathometers, calibrated to 800 fms/sec. An abstract of corrections is appended to this supplement.

CONTROL OF HYDROGRAPHY

See DESCRIPTIVE REPORT - Ship BOWIE.

ADEQUACY OF SURVEY

This survey is considered complete and adequate to supersede prior surveys for charting.

CROSSLINES

A total of approximately 15% crosslines were run in the areas surveyed with adequate agreement on the boat sheet.

DANGERS AND SHOALS

No new dangers or shoals were found in the area.

AIDS TO NAVIGATION

There are no fixed aids to navigation in the area surveyed and none were located.

One floating aid was located by the hydrographic party as follows:

Buoy	Date Located	Pos. No.	Depth ft.	Lat.	Long.
No. 1 - Black (Fl W) BELL	10 January 1955	104 e	31	37° 41.78'N	122° 20.38'W

LANDMARKS FOR CHARTS

No additional landmarks are recommended.

VELOCITY CORRECTIONS

Velocity corrections were determined from bar checks taken during hydrographic operations. Copies of the abstract of Echo Corrections are appended to this supplement.

MISCELLANEOUS

It will be noted that no comparison with prior surveys or with the chart have been made in this supplement. It was felt that this should be done after smooth plotting of the survey was completed. See Review, #'s 5 & 6

No mention is herein made as to the smooth sheet as it will be made by the Seattle Processing Office at a later date.

TABULATION OF APPLICABLE DATA

Applicable Data	Forwarded to	Date
TIDAL DATA		
Level Records, Point San Bruno, California	The Director	27 May 1955
Tide Marigrams, Point San Bruno, California	The Director	27 May 1955
Smooth Tide Curves and Reducers Point San Bruno, California	Seattle Processing Office	
PHOTOGRAMMETRIC DATA		
Field Photographs	The Director	
Office Photographs	The Director	
Manuscripts T-11064 and T-11066	Seattle Processing Office	
HYDROGRAPHIC DATA		
Fathograms	Seattle Processing Office	12 - 17 May 1955
Boat Sheet, Fathometer Report, Control Data	Seattle Processing Office	
Fathometer Report	The Director	

Respectfully Submitted,

Clinton D. Upham

Clinton D. Upham
Ensign, USC&GS

Approved & Forwarded,

Horace G. Conerly

Horace G. Conerly
Commander, USC&GS
Oinc., West Coast
Shore Party

ABSTRACT OF VELOCITY CORRECTIONS

FOR HYDROGRAPHIC SURVEY

PROJECT CS-256

REGISTERY NO. H-8025 FIELD NO. BO-1254

Corrections	Dates	Day Letter
0-11 -0.4 17 -0.2 37 -0.0 42 +0.2 45 +0.4 52 +0.6 59 +0.8 70 +1.0	4 January thru 10 January 1955 Zero phase correction "B" Scale	"a" thru "e" (green)
0-38 -0.2 44 0.0 51. +0.2 51.5 - +0.4	11 February 1955 + 0.4 Phase Correction "B" Scale	"f" (green)
0-4 -0.2 10.5 -0.4 34 -0.6 44 -0.4 52 -0.2 59 0.0 59 - +0.2	1 March 1955 + 0.4 Phase Correction "B" Scale	"g" (green)

STATISTICS FOR HYDROGRAPHIC SURVEY

REGISTER NO. H-8025 *1955 Work*

FIELD NO. BO-1254

WEST COAST SHORE PARTY

PROJECT CS-256

Vol. No.	Day Letter	Date	HL Sdgs.	No. Pos.	Stat. Miles Sdg.
11	a (green)	1-4-55		9	2.1
11	b "	1-5-55		50	9.7
11	c "	1-6-55		41	7.0
12	d "	1-7-55		153	26.7
13	e "	1-10-55		146	24.4
14	f "	1-11-55		60	7.2
14	g "	3-1-55		96	14.9
		TOTAL		555	92.0

Total area 4.3 square statute miles

TIDE NOTE TO ACCOMPANY DESCRIPTIVE REPORT OF

HYDROGRAPHIC SURVEY

REGISTERY NO. H-8025 FIELD NO. BO-1254

WEST COAST SHORE PARTY

PROJECT CS-256

A portable automatic tide gage was maintained at Point San Bruno, California, Latitude 37° 40.06' N, Longitude 122° 23.42' W, to furnish tide reducers in this area. Mean Lower Low Water corresponds to a reading of 3.7 ft. on the staff.

A minus 20 minute time correction was applied to the tide for the area north of a line extending southeasterly from the most southerly dock at Hunters Point to Latitude 37° 42' N, Longitude 122° 21' W, thence east along Latitude 37° 42' N to the east boundry of this survey. No range connection was applied.

Tides from the standard automatic tide gage at Hunters Point, California were used to reduce soundings on "d" day (green), 7 January 1955. A plus 20 minute time correction was applied to these tides in the area south of a line extending southeasterly from the most southerly docks at Hunters Point to Latitude 37° 42' N, Longitude 122° 21' W, and thence east along Latitude 37° 42' N to the east boundry of this survey.

Over the remainder of the area surveyed, (i.e., areas other than those mentioned in paragraphs 2 and 3) the tides from the Point San Bruno tide gage were applied directly.

APPROVAL SHEET

HYDROGRAPHIC SURVEY REGISTERY NO. H-8025, FIELD NO. BO-1254

WEST COAST SHORE PARTY

The survey is considered complete and adequate and no additional field work is recommended. The records have been examined and are approved.

Horace G. Conerly
Commander, USC&GS
OinC., West Coast
Shore Party

LIST OF SIGNALS USED BY
THE WEST COAST SHORE PARTY

SHEET BO-1254 REG. H-8025

Name Used In Hydro Survey	Origin of Signal
BAY	BO-B-54 also T-11064
BLA	T-11066
BLU	BO-B-54 (T-7001, 1954)
BRICK	RED BRICK CHIMNEY, 1938
DEB	T-11066
DUC	Hydro Cuts
EAT	T-11066
FEW	T-11066
FEZ	T-11066
FUN	BO-B-54 (T-7001, 1954)
GAG	T-11066
HAG	T-11064
HEM	T-11066
ION	T-11066
KEN	T-11066
KSFO	KSFO RADIO TOWER, 1937
KYA	KYA RADIO TOWER, 1937
MAP	BO-B-54 T-7001 (1954)
MOUNT	SAN BRUNO MOUNTAIN MIDDLE TRANSMISSION TOWER, 1932
MUNI	S. F. MUNICIPAL AIRPORT NORTH SIDE LIGHT, 1953
MUT	BO-B-54 T-7001 (1954)
OBI	OBI, 1954
POINT	HUNTERS POINT NORTH END LIGHT, 1953
RIP	T-11064
ROC	T-11066

LIST OF SIGNALS USED
(CONTINUED)

Name Used In Hydro Survey	Origin of Signal
ROOF	ELEVATED TANK CONICAL ROOF, 1938
SIDE	S. F.MUNICIPAL AIRPORT SOUTH SIDE LIGHT, 1953
WAD	T-11066
WAR	T-11066
WOO	T-11066

PROCESSING OFFICE NOTES

H-8025 (BO-1254)

SMOOTH SHEET

The smooth sheet was prepared by hand in the Seattle Processing Office, using standard methods.

SHORELINE AND TOPOGRAPHY

Transfered from manuscripts T-11064 and T-11066, as noted in the field report. Use T-7001b (1954) 1:5000 northerly of 37°43'

Piles noted in sounding record in the vicinity of position 145q (red) were transfered from the Boat Sheet. also at 37°39.7, 122°23.0

SOUNDINGS

Fluctuating voltage on "k" day (red) gave some soundings that were too shoal. Between positions 107 and 132 a percentage correction, based on the paper speed, was applied in the affected areas.

Pen and ink changes have been made in section "INVESTIGATED SOUNDINGS" listed in the field report.

CONTROL OF HYDROGRAPHY

In the lower right section of the sheet a high percentage of the fixes werewweak, possibly taken on the only control available due to poor visibility. The final plotting was held to whatever angle seemed the most reasonable. Some of the offshore lines in other areas were also weak, apparently due to weather and haze. It was necessary to rely on the best angle and time for parts of these lines. replotted 28-752

ADEQUACY OF SURVEY

Discrepancies were found in crossings between the "green" launch and the "red" launch of one to two feet. All possibilities were explored but no solution was arrived at. Since the hydrography by the "green" launch was run several months after the "red" launch work, it is presumed that the bottom has changed in the interval. A statement by one of the hydrographers, as to the currents in the area bears out this belief; except for one day which was too shoal. On this day a note at position 58f "green" mentions the poor graph and refers to the transmitter in the "fish" apparently being loose. Tide corrected on d day; c and others could also have been improved Review, #2

The sounding line 102u to 142u "red" also does not agree with the other lines that it crosses by about five percent. No logical reason for this discrepancy could be discovered and the soundings were omitted from the smooth sheet.

Except for minor changes the depth curves at the junctions can be adequately drawn. Up to 3 ft difference is common. Curves were smoothed by office hydrography and some crowbarring.

GEOGRAPHIC NAMES ON H-8025

BAYSHORE

BAYVIEW

BRISBANE

CANDLESTICK PT.

DOUBLE RK.

GUADALUPE VALLEY

HUNTERS PT.

OYSTER PT.

PT. AVISADERO

PT. SAN BRUNO

SAN BRUNO

SAN FRANCISCO

SAN FRANCISCO BAY

SAN FRANCISCO MUNICIPAL AIRPORT

SOUTH SAN FRANCISCO

SIERRA PT.

VISITACION PT.

COMPARISON WITH PRIOR SURVEYS

A comparison with H-4137 shows soundings a foot or two deeper over most of the sheet. A comparison with H-6726 shows soundings that are a foot or two shoaler. A comparison between H-4137 and H-6726 shows H-6726 to be two to three feet shoaler that H-4137.

Review, #5

Respectfully submitted

Clarence E. Pedersen

Clarence E. Pedersen
Cart. Aid (Gen) C&GS

Examined and Approved

William M. Martin

William M. Martin
Cartographer-in-Charge S.P.O.

Approved and Forwarded

L. S. Hubbard

L. S. Hubbard, Captain, C&GS
Seattle District Officer

GEOGRAPHIC NAMES

Survey No. H-8025

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
California									BGH	1
San Francisco Bay										2
San Francisco									BGH	3
Pt Avisadero		(tip of Hunters Pt)							"	4
Hunters Point									"	5
Double Rock										6
Candlestick Point										7
Bayshore										8
Visitacion Point									BGH	9
Brisbane										10
Sierra Point										11
Oyster Point										12
Pt San Bruno		(tide station)								13
South San Francisco										14
San Francisco International Airport		(this name on charts; also called Mills Field)								15
										16
										17
				Names approved 6-14-56 L. Heck						18
										19
	(other names pencilled on sheet O.K. if deemed necessary)									20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8025

Records accompenying survey:

Boat sheets 1...; sounding vols. 14..; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 13-Envelopes;

special reports, etc. 1-Descriptive report, and 1-Smooth sheet.....

(1-Observation of Horizontal Angles forward to Geodesy).....

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet		3174
Number of positions checked		328
Number of positions revised		2
Number of soundings revised (refers to depth only)		✓
Number of soundings erroneously spaced		13
Number of signals erroneously plotted or transferred		✓
Topographic details	Time	✓
Junctions	Time	✓
Verification of soundings from graphic record	Time	8 hrs

Verification by Clarence Misfeldt junctions and curves 120 3/65 Mary C. Jones ....Total time 252 Date 11-19-57

Reviewed by J.A. Dinsmore ..... Time 56 Date 15 Mar 1957
Clarence Misfeldt 32 March 1965

Prelim. Verification J.A. Dinsmore --- 96 hrs. 3/14/57

M-2232-1

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~ 22 June 1956

Division of Charts: R. H. Carstens

Plane of reference approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET: 8025

Locality South San Francisco Bay, California

Chief of Party: H. G. Conerly in 1954-1955
Plane of reference is mean lower low water, reading
3.7 ft. on tide staff at Point San Bruno
10.4 ft. below B. M. 6 (1952)

Height of mean high water above plane of reference is 6.3 feet

Condition of records satisfactory except as noted below:

[signature]

Chief, ~~Division of~~ Tides ~~and Currents~~ Branch

U. S. GOVERNMENT PRINTING OFFICE 877988

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8025 FIELD NO. BO-1254

California, San Francisco Bay, Hunters Pt. to S. F. International Airport

Project No. CS-256

Surveyed - June - Nov. 1954, Jan. - March 1955

Scale 1:10,000

Soundings:

808 Fathometer

Control:

Sextant fixes on shore signals

Chief of Party - H. C. Applequist, C. A. George and H. G. Conerly
Surveyed by - G. E. Cook, K. A. MacDonald, C. D. Upham and H. L. Runge
Protracted by - C. E. Pedersen
Soundings plotted by - C. E. Pedersen
Preliminary Verification by - T. A. Dinsmore
Verified and inked by - M.C. Zunes
Reviewed by - T. A. Dinsmore 15 February 1957
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline originates with the unreviewed manuscripts of air-photographic surveys T-11064 and T-11066 of 1952-53.

The origin of the signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement. Sections of several sounding lines were rejected where crossing discrepancies of 2 ft. could not be resolved. The rejected hydrography did not impair the survey coverage in the affected areas.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated except in several inshore areas where either dredging or filling-in was in progress at the time of the survey.

Shoal flats extend as much as a mile and a half offshore on the west. Northward of the channel leading to South San Francisco, depths increase rather rapidly from 6 to 18 feet. The bottom is generally smooth and undulating.

4. Junctions with Contemporary Surveys

The present survey junctions adequately with H-8023 (1954) and H-8024 (1954) on the north. The transfer of junctional soundings is deferred pending the complete verification of the present survey.

The junctions with H-8027 (1955) on the east and H-8026 (1954-56) on the south will be considered in the reviews of those surveys.

After the present survey has been completely verified, a butt junction will be made with H-6726 (1941) on the east because present survey depths are from 1 to 5 ft. deeper than the prior survey depths in the overlapping area of the two surveys. In the overlapping area, the present survey depths supersede the prior depths.

5. Comparison with Prior Surveys

a. H-421 (1854) 1:10,000
H-628 (1857-58) 1:20,000
H-1214a (1871-73) 1:20,000
H-2315 (1897) 1:20,000

The dredging of several channels together with extensive harbor improvements mark the principal changes in this area since the early surveys. Only differences of 1 to 2 ft. are generally found between the prior and present depths.

b. H-3966 (1917) 1:10,000
H-4137 (1919-20) 1:20,000
H-5129 (1931) 1:20,000
H-6726 (1941) 1:10,000
H-6794 (1941-42) 1:10,000

These prior surveys taken together cover the area of the present survey. A comparison of the prior and present surveys reveals some changes in bottom. In general there appears to be a slight deepening of 1 to 2 ft. in localized inshore areas and sporadic shoaling in other inshore areas, particularly adjacent to the dredged channels where spoil

H-6726 is a predredge survey

has apparently been dumped. In the offshore areas, a localized deepening has occurred in lat. 37°41', long. 122°20.1', where present depths of 31 - 32 ft. supersede depths of 26 ft. on H-6726 (1941) while conversely substantial shoaling has occurred at the southeastern limits of the survey where present depths of 13 - 14 ft. now supersede prior depths of 18 - 19 ft. (1920) in the vicinity of lat. 37°38.2', long. 122°19.85'. Appreciable shoaling is also noted in the vicinity of lat. 37°43.5', long. 122°21', where present depths of 41 - 44 ft. fall in depths of 60 - 75 ft. on H-6794 (1941-42).

The changes noted are attributed to both natural and artificial causes.

The following discrepancies are noted:

(1) The 5-ft. sounding previously charted in lat. 37°42.8', long. 122°21.98', from H-4137 should be disregarded. Falling in prior and present depths of 10 - 11 ft., the unsupported prior sounding is probably 1 fm. in error and is considered disproved by the present development. The 9-ft. sounding now charted closeby from the present survey is adequate.

(2) The 2-ft. sounding charted in lat. 37°42.32', long. 122°23.04', from H-4137 should be disregarded. The unsupported sounding falls in 5-to 6-ft. depths on the prior survey. Close development on the present survey revealed no depths less than 4 ft. The prior sounding is considered erroneous.

(3) The 1-ft. sounding charted in lat. 37°39.24', long. 122°22.31', from H-4137 should be disregarded. Although supported by 2-and 3-ft. soundings on the prior survey, close development on the present survey clearly indicates that the prior shoal has eroded. The least depth in the above position is now determined to be 6 ft.

A line of piling (charted) extending off Point San Bruno has been carried forward to the present survey from H-4137 (1919). With this addition, the present survey is adequate to supersede the prior surveys within the common area.

c. F. E. No. 6 (1950)

This field examination covers the dredged channel leading to the berthing area in the vicinity of lat. 37°40', long. 122°23.5', as well as the area around the piers. A comparison of the prior and present depths indicates that depths in the dredged channel and berthing area have shoaled from 1 to 5 ft. since 1950. In the unsurveyed area in lat. 37°40.08', long. 122°23.4', a few soundings have been carried forward from F. E. No. 6. With these additions, the present survey is adequate to supersede the prior field examination.

d. H-3967 (1917) W.D.

This wire-drag survey covers a portion of the present survey on the northeast. No conflicts are noted between the effective drag depths and depths on the present survey.

6. Comparison with Chart 5531 (Latest print date 8/20/55)

A. Hydrography

Charted hydrography originates principally with the previously discussed surveys supplemented by various surveys by the Corps of Engineers and partial application of the present survey prior to verification and review.

Specific mention is made of the following charted information:

(1) The 6-ft. shoal charted in lat. 37°42.62', long. 122° 21.88', from a 1945 survey by the Corps of Engineers (Bp. 39811) should be disregarded. Close development on the present survey reveals depths of 8 ft. in the above locality with 7-ft. depths nearby. The depths shown by the present development should supersede the prior depths.

(2) The 9-and 10-ft. soundings charted in lat. 37°38.18', long. 122°20.76', and lat. 37°37.95', long. 122°20.00', respectively originate with the present survey prior to verification and review. During the preliminary verification of the present survey, the above soundings were determined to have been reduced from fathogram strays and have been revised to 13 ft.

(3) The charted Freeway crossing the bay from Bayshore to Sierra Point originates with information furnished by the Division of Highways, California, shown on blue prints 53722-23 (1956). This subsequent information of course

supersedes the present survey in the affected area.

(4) The obstruction (sunken concrete float) charted in lat. 37°38.07', long. 122°22.9', originates with a Corps of Engineers survey of 1953 (Bp. 51557). Inasmuch as the present survey furnishes no information on this feature, the obstruction should be retained on the chart.

Except as noted in the two preceding paragraphs, the present survey supersedes the charted information.

B. Dredged Channels

The charted controlling depths within the three marked channels originate with the unverified present survey. No discrepancies are noted.

C. Aids to Navigation

The buoy charted in lat. 37°43.04', long. 122°19.72', was established subsequent to the present survey in accordance with information published in H. O. Notice to Mariners No. 34 (1955).

Except as noted, the aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended.

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive except that the latitudes and longitudes of the beginning and end of lines are not recorded in the sounding volumes.

b. The preliminary verification and inspection indicates that the smooth plotting was generally accurate.

c. Signals Hil and Low in lat. 37°42.98', long. 122°22.06', and lat. 37°42.92', long. 122°21.95', respectively, were undescribed on the present survey and on T-7001b (1954) from which they originate. Falling in depths of 3 and 6 feet, the signals are assumed to be piles and are so noted on the present smooth sheet.

d. The preliminary verification of the survey was generally confined to spot development, sounding-line crossings and unnatural configuration. A pattern of sounding lines covering the general area have been verified and inked. Completion of the verification and inking of soundings is deferred until some future date at which time the depth curves will be inked and the junctional soundings transferred.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

With the construction of the Bayshore Freeway from Bayshore to Sierra Point, the lack of inshore soundings on the present survey in the vicinity of Visitacion Point appears to be unimportant.

As noted by the hydrographer, the sea plane basin and entrance channel immediately north of San Francisco International Airport were being dredged at the time of the survey. This area, however, is surveyed periodically by the Corps of Engineers.

The present survey is considered to be complete and adequate for charting purposes and no additional field work is recommended.

Examined and Approved:

Max G. Ricketts
Chief, Nautical Chart Branch

Charles A. Schanck
Chief, Division of Charts

Karl B. Jeffers
Chief, Hydrography Branch

Samuel B. Grenell
Chief, Division of Coastal Surveys

Addendum to Review H-8025

Verification and inking completed by--------M. C. Zunes
Junctions and curves inked by---------------C. E. Misfelt
Review Addendum by-------------------------C. E. Misfelt 3/65
Inspected by-------------------------------R. H. Carstens

The verification of the survey has been completed. The soundings, depth curves and junctions have been inked. A butt junction was effected between the present survey and H-6726 (1941) on the east, north of latitude 37°39.6', because depths in the overlapping area differed by as much as 5 ft.

Comparison with Chart 5531 (Latest print date 11/11/63)
Chart 5535 (Latest print date 1/18/65)

A. Hydrography

The charted hydrography originates with the present survey after preliminary verification and before review. Only minor differences of 1-2 ft. between the charted and present survey depths are noted.

Attention is specifically directed to the following:

1. The pile located on the present survey in lat. 37°40.28', long. 122°22.44', was originally charted on the 12th edition of chart 5531, dated 8/20/56, but was deleted from the 13th edition of chart 5531 dated 6/29/59. Although a field inspection of the area by Small-craft Charts (chart letter 1259, 1959) failed to reveal the existence of the pile, the feature is not considered disproved and should be charted.

2. The 15-ft. sounding charted in lat. 37°39.12', long. 122°20.5', originates with the present survey after preliminary verification and review. The 15-ft. sounding was rejected during the final verification and review of the present survey and it, therefore, should be deleted from the chart.

3. The 21-ft. sounding charted in lat. 37°41.57', long. 122°21.40', from the present survey after preliminary verification and review, was revised to 26 ft. during the final verification and review of the present survey. The charted 21-ft. sounding, therefore, should be revised to 26 ft.

4. The low-water line charted on chart 5535 in the vicinity of lat. 37°42.55', long. 122°23.45', was not developed on the present survey. The low-water line here on H-2315 (1897) is adequately developed for charting use.

B. Aids to Navigation

The lighted bell buoy located on the present survey in lat. 37°39.48', long. 122°21.70', was deleted from the chart subsequent to the present survey in compliance with H. O. N to M 11, 1961.

Red buoy N "2" charted subsequent to the present survey in lat. 37°39.36', long. 122°21.95', originates with H. O. N to M 11, 1961.

C. Dredged Channels

New channels have been dredged subsequent to the present survey in the areas north of the San Francisco International Airport (bps. 64219-20) and south of Oyster Pt. (Ch. L. 461/63). Additional dredging was done in the San Bruno Shoal Channel in 1961 (bp. 60809).

Shoreline

A comparison between the chart and the present survey reveals differences in the shoreline. These differences are caused by the reclaiming of land, by the construction or by alteration of piers and by dredging operations, all of which occurred subsequent to the present survey. The charted shoreline originates with the reviewed photogrammetric surveys T-11064 and T-11066 of 1952-53 and plane-table survey T-7001b (1954), supplemented by shoreline changes applied directly to the chart from aerial photographs, and from the

California Highway Dept. survey of 1956 (Bp 53722) and the City of South San Francisco, California survey of 1963 (Chart letter 461, 1963).

Condition of Survey

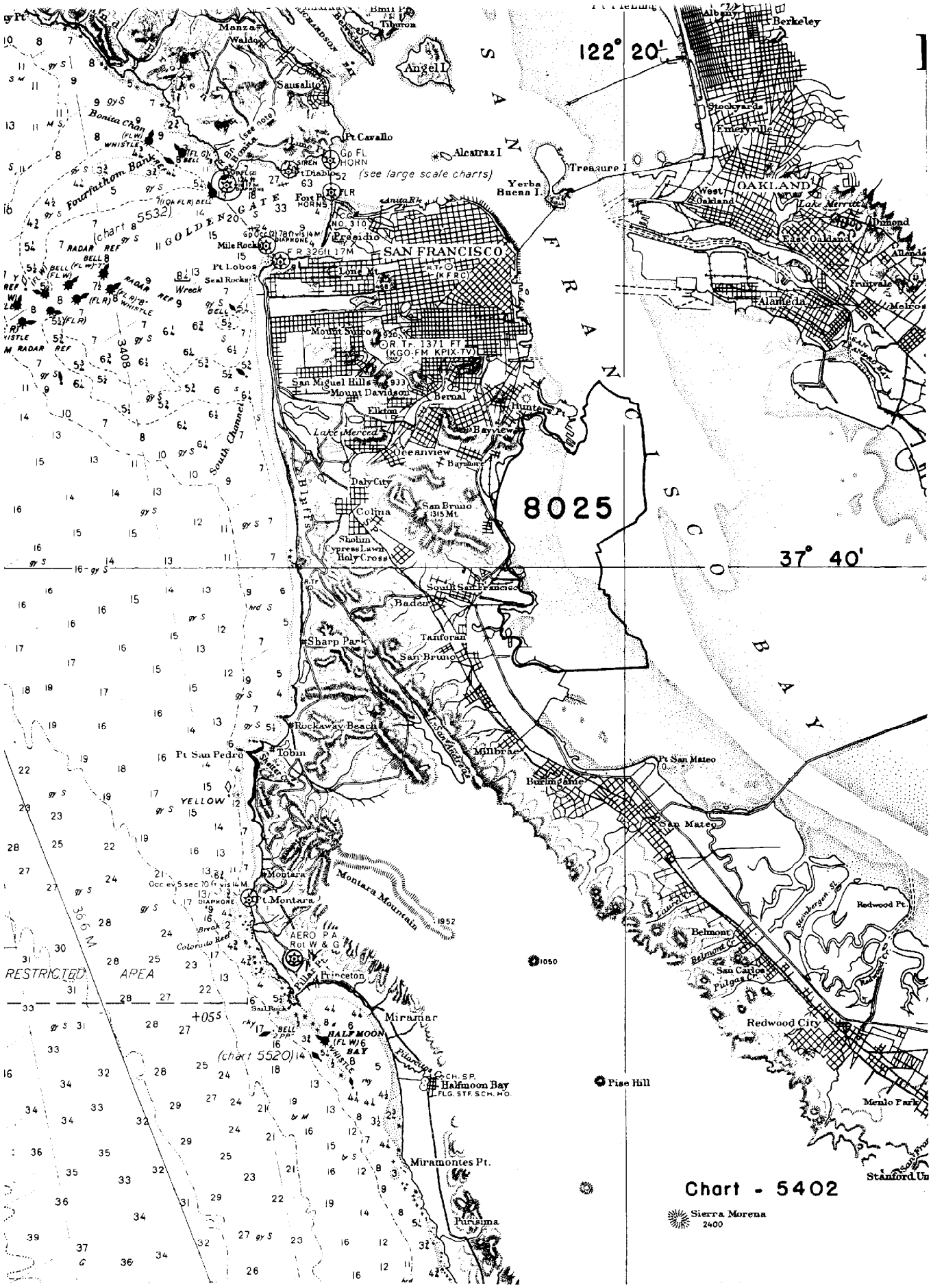
Completion of the verification indicates that the smooth plotting was adequately done.

The Descriptive Report is complete and comprehensive.

Approved:

Lorne G. Taylor

Lorne G. Taylor
Commander, USC&GS
Chief, Nautical Chart
Division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8025
SAN FRANCISCO BAY
SAN FRANCISCO
OAKLAND
Berkeley
Albany
Emeryville
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Yerba Buena I.
Alcatraz I
Angel I
Sausalito
Pt Cavallo
Fort Point
Presidio
Mile Rock
Pt Lobos
Lone Mt.
Mount Sutro
Mount Davidson
San Miguel Hills
Bernal
Hunters Pt
Bayview
Lake Merced
Oceanview
Daily City
Colma
San Bruno Mt
Sharp Park
Tanforan
San Bruno
Rockaway Beach
Pt San Pedro
Tobin
Montara
Pt Montara
Montara Mountain
Millbrae
Burlingame
Pt San Mateo
San Mateo
Belmont
San Carlos
Redwood Pt.
Redwood City
Pulgas
Miramar
Princeton
Halfmoon Bay
Pilarcitos Creek
Pilarcitos Lake
Pise Hill
Menlo Park
Miramontes Pt.
Purisima
Stanford Un
Golden Gate
Fourfathom Bank
Bonita Chan
South Channel
Colorado Reef
RESTRICTED AREA
Chart - 5402
Sierra Morena
2400

NAUTICAL CHARTS BRANCH

SURVEY NO. H 8025

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
5-15-56	5531	J.P. Walker	Before ~~After~~ Verification and Review Partially
6/8/56	5535	H.E. MacEwen	Before ~~After~~ Verification and Review Partially applied 2 odgs. added
9/10/56	5532	JSE	Before ~~After~~ Verification and Review Partially
12/28/56	Rec. 5532	[illegible]	Before ~~After~~ Verification and Review
8/28/57	Rec. 5535	J.G. McGann	~~Before~~ After Verification and Review Preliminary ↑ Consider as fully applied
12/2/57	Recmnd 5531	J.G. McGann	~~Before~~ After Verification and Review Preliminary
3/5/58	Recmnd 5532	J.P. Walker	~~Before~~ After Verification and Review Completely applied thru Recmnd 5531
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.