8282

Diag. Cht. No. 5530-5.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WCSP-1456 *Office No.* H-8282

LOCALITY

State California

General locality South San Francisco Bay

Locality Sloughs At S.E. End of San Francisco Bay.

1956-57

CHIEF OF PARTY

H. G. Conerly and A. L. Wardwell

LIBRARY & ARCHIVES

DATE April 29, 1957

B-1870-1 (1)

8282

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-8282

Field No. WCSP-1456

State CALIFORNIA

General locality SOUTH SAN FRANCISCO BAY

Locality SLOUGHS AT SE END OF SAN FRANCISCO BAY

Scale 1:10,000 Date of survey April and May 1956
20 May 1957

Instructions dated 25 February 1954 - Supplemental 1 October 1955

Vessel LAUNCH CS-160
A.L. Wardwell

Chief of party H. G. CONERLY

Surveyed by H. G. CONERLY, A.L. Wardwell, J.R. Richards and P.J. Taetz

Soundings taken by fathometer, graphic recorder, ~~hand lead, wire~~

Fathograms scaled by A. W. B.

Fathograms checked by K. E. TAGGART

Protracted by C. R. LEHMAN

Soundings penciled by C. R. LEHMAN

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

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 693019

8282

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY

REGISTRY NO. H-8282 - FIELD NO. WCSP 1456

SAN FRANCISCO BAY, CALIFORNIA

PROJECT 1256 SCALE: 1:10,000

HORACE G. CONERLY, CHIEF OF PARTY

SURVEYED BY: H. G. CONERLY & K. E. TAGGART

PROJECT

This survey was done in compliance with instructions dated 25 February 1954 and Supplemental Instructions dated 1 October 1955.

SURVEY LIMITS AND DATES

The limits are the lower part of South San Francisco Bay, including sloughs. The sheet makes a junction with Sheet Field No. WCSP 1356 Reg. H-8281 at approx. Longitude 122 - 02 - 40 and extends to the limits of the navigable part of the sloughs.

VESSEL AND EQUIPMENT

For all the hydrography Launch CS 160 was used with an 808 type fathometer doing the sounding. There are two fish units mounted in the keel of the launch at a depth of approx. 3.0 feet. The reeds are calibrated to 800 fms/sec.

TIDE AND CURRENT STATIONS

For tide reducers tide gages were maintained at the Dumbarton Highway Bridge, at the Railroad Bridge across Mud Slough and in Guadalupe River. See Tidal Note for details of zones used.

No current stations were occupied.

CROSSLINES

There are adaquate crosslines to make comparisons with all days of soundings.

There are several points at the beginning of the line and areas of very steep bottom where the crosslines are not very good on the boat sheet but they are nearly all in areas of minus soundings and of no importance. They are amply explained in the sounding volumes and are not considered as important. In all areas of navigable water the crossings are satisfactory.

P2 review depths at crossings in adequate agreement

-r

2

COMPARISON WITH PRIOR SURVEYS

There are several areas in the sloughs, where the slope is very steep, so that the soundings plotted on the shoreline. This is probably due to a distortion of the Boat Sheet, as in each case if the shore had been scoured out, it was a very little. In each case where the position plotted too close to, or on the shore, a note was added in the sounding volume, giving an estimated distance to the shore.

sdg. lines adjusted.

Gray Goose Slough has been cut off by salt ponds as shown on the Boat Sheet and no longer exists. The shoreline was sketched on the Boat Sheet between sextant fixes taken on the shore.

There are numerous minor changes in depths, channels and sloughs from those shown on survey no. 5140. They are mostly due to scouring and filling action and the construction of salt ponds along the shores. Most of them are not serious for charting purposes as most of the craft that use this part of the bay are run by people that have local knowledge and use the chart as a guide. The survey on this sheet should be considered as a basic survey and where there are differences from 5140 the newer survey should be used.

PG review

COMPARISON WITH CHART

There are minor depth changes in numerous areas. The shoreline has changed small amounts and Gray Goose Slough has been completely cut off by a ~~liner~~ levee for a salt pond. See Boat Sheet for new shore.

Other changes not clearly shown on the Boat Sheet are:

1. The chart shows a swing bridge at approx. Latitude 37° 27.6 Longitude 121° 58.4. This bridge is no longer a swing bridge. The Washington Office has previously been notified by chart letter. 327, 1956
L-327(1956) also vert. cl - now 2 ft. MHW

2. There are numerous new salt ponds along shore, most of which will be shown on the photographs of the area.

DANGERS AND SHOALS

There are numerous mud shoals in the area but they show clearly on the sheet and are not especially dangerous as the mud, in all cases, is soft and would do little damage to a vessel that might go aground. However the position of the shoals and lack of aids nearby make navigation difficult for those that are not familiar with that part of the bay. People traveling in the area, from time to time, put small stakes or poles in the mud to mark the deeper water but they are of a temporary nature and do not stay very long.

There are no dangers in the area.

PRELIMINARY REVIEW

The Preliminary Review did not mention anything in the area.

AIDS TO NAVIGATION

The only Aids to Navigation that were established as Aids to Navigation are Red Nun Buoy No. 6 and Flashing Green Light No. 5.

Red Nun Buoy No. 6 was located on Sheet WCSP 1356 Reg. H-8281 and Flashing Green Light No. 5 was located on T-11075. (1952-53)

Follow adjoining survey H 8281

LANDMARKS FOR CHARTS

No additional Landmarks for Charts are recommended. The four groups of three tall towers in Coyote Creek are an aid to navigation from close by but from a distance are very difficult to pick out from the numerous other towers in the area.

VELOCITY CORRECTIONS

Velocity corrections were determined from bar checks, pole and lead-line comparisons. A separate fathometer report has been prepared and an abstract of corrections is part of this report.

CONTROL STATIONS

Previously established triangulation was used where available.

Additional Control was from T-11075 and T-11076. See "List of Signals Used" for details.

SHORELINE AND TOPOGRAPHY

Shoreline, with the exception of the end of Gray Goose Slough was taken from T-11075, T-11076 and T-11077. of 1952-53.

METHODS

Standard hydrographic methods, using Launch CS 160 and an 808 fathometer were used throughout.

CONTROL OF HYDROGRAPHY

The position of the launch were fixed by sextant angles on previously located objects ashore.

ADEQUACY OF SURVEY

The survey is considered as adequate for charting purposes. Newark Slough, Mowry Slough, Mud Slough and the upper end of Coyote Creek Slough are not surveyed in great detail but their primary use is to supply water to salt ponds in the area. Only an occasional boat of any type travels in them.

Alviso Slough is used by yachtsman who leave their yachts in various locations at Alviso, and small tugs towing shell barges to Alviso. The wide part of the slough is amply surveyed but the narrow part is too narrow to run more than a center line.

The channel in Guadalupe River is very narrow and difficult to navigate without local knowledge. The channel is at the present time marked by small stakes of a temporary nature. They are along the west side extending from the entrance to where the channel is close to the high water line. From this point the channel is still narrow and generally follows the outside of the curve or near the middle in the straight sections.

MISCELLANEOUS

The bottom in this area is very soft mud. The hydrographic launch, used for the work, draws 3.5 feet but has been known to travel in 1.5 feet of water for several hundred feet without much effort and with no apparent lift of the launch. see notations in vols. & fath. ex = "a" day

TABULATION OF APPLICABLE DATA

1 - Tidal levels and marigrams forwwarded to the Director; Abstract of tide reducers is a part of this report.

2 - Field and office photographs to be forwarded to the Director.

3 - Photo manuscripts to be forwarded to Seattle Processing Office.

4 - Triangulation, retained in office. Processing Office has a copy.

5 - Fathograms forwarded to Seattle Processing Office.

6 - Blueline prints forwarded to Seattle Processing Office.

7 - Special Fathometer Report and computation of corrections forwarded to Director, a copy to Seattle Processing Office and an abstract of corrections a part of this report.

8 - Boat Sheet and sounding volumes to be forwarded to Seattle Processing Office.

Submitted By

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

TIDAL NOTE

HYDROGRAPHIC SHEET NO. WCSP 1456 - REGISTRY NO. H-8282

For tide reducers on the sheet, tide gages were maintained at Dumbarton Highway Bridge Latitude 37 - 30.4 Longitude 122 - 07.0 Mud Slough RR Bridge Latitude 37 - 28 - 08, Longitude 122 - 58 - 22 Guadalupe River Latitude 37 - 26.15, Longitude 122 - 01.58. The staff reading of MLLW on Dumbarton Bridge was 2.7 ft., Mud Slough 3.8 ft and Guadalupe River 3.2 ft.

Tide zones E, F and G, as shown on the Boat Sheet, were used with the following corrections for distance from the gage:

1. In Zone "E" observations from the Mud Slough gage were used directly with no correction for time or height.

2. In zone "F" a plus 25 minute correction for time and a minus 0.3 foot from mean high tide for height were applied to the Mud Slough observations.

3. In Zone "G" the observations from Guadalupe gage were used direct with no correction for distance from the gage.

See Director's Letter 36-277-15 f, dated 22 June 1956 for authority for above zoning.

APPROVAL SHEET

HYDROGRAPHIC SHEET NO. WCSP 1456 - REGISTRY NO. H-8282

The survey including the sheet and records were under close supervision of the Chief of Party and are approved.

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

ABSTRACT OF SMOOTH TIDE REDUCERS

REGISTRY NO. H 8282 - FIELD NO. WCSP 1456

SAN FRANCISCO BAY, CALIFORNIA

"a" day 23 April
(Guadalupe River Direct) T.Zone "G"

0851 - 0858	-4.2
0903	-4.4
0909	-4.6
0913	-4.8
0920	-5.0
0925	-5.2

"a" day 23 April
Tide Zone "E"
(Mud Slough Direct)

0920 - 0927	-5.4
0932	-5.6
0938	-5.8
0943	-6.0
0948	-6.2
0954	-6.4
1000	-6.6
1004	-6.8
1012	-7.0
1020	-7.2
1028	-7.4
1038	-7.6
1048	-7.8
1100	-8.0
1121	-8.2
1234	-8.4
1250	-8.2
1300	-8.0
1312	-7.8
1322	-7.6
1332	-7.4
1341	-7.2
1350	-7.0
1400	-6.8
1407	-6.6
1414	-6.4
1422	-6.2

"b" day 24 April
Tide Zone "E"
(Mud Slough Direct)

0920 - 0927	-3.2
0933	-3.4
0939	-3.6
0945	-3.8
0951	-4.0
0958	-4.2
1002	-4.4
1007	-4.6
1012	-4.8
1017	-5.0
1022	-5.2
1028	-5.4
1031	-5.6
1037	-5.8
1042	-6.0
1046	-6.2
1050	-6.4
1055	-6.6
1100	-6.8
1106	-7.0
1112	-7.2
1118	-7.4
1123	-7.6
1132	-7.8
1145	-8.0
1200	-8.2
1321	-8.4
1342	-8.2
1400	-8.0
1412	-7.8
1422	-7.6
1431	-7.4
1439	-7.2
1446	-7.0
1453	-6.8
1500	-6.6
1507	-6.4
1515	-6.2
1522	-6.0
1531	-5.8

"b" day 24 April
Tide Zone "F"
(Mud Slough T.G.
+ 25 m.time Corr.
& .966 range ratio)

1144 - 1153	-7.4
1203	-7.6
1217	-7.8
1235	-8.0
1342	-8.2
1401	-8.0
1418	-7.8

"c" day 25 April
Tide Zone "E"
(Mud Slough Direct)

1342 - 1407	-8.2
1423	-8.0
1436	-7.8
1446	-7.6

"d" day 26 April
Tide Zone "E"
(Mud Slough Direct)

1131 - 1137	-4.8
1142	-5.0
1147	-5.2
1152	-5.4

"e" day 27 April
Tide Zone "E"
(Mud Slough Direct)

1310 - 1318	-6.8
1325	-7.0
1334	-7.2
1342	-7.4
1355	-7.6
1410	-7.8
1437	-8.0
1519	-8.2
1542	-8.0

ABSTRACT OF SMOOTH TIDE REDUCERS

CONTINUED

"f" day 3 May
Tide Zone "G"
(Guadalupe River
Direct)

0736 -	0752	-6.0
	0808	-5.8
	0822	-5.6
	0837	-5.4
	0850	-5.2
	0903	-5.0
	0913	-4.8
	0923	-4.6
	0933	-4.4
	0943	-4.2

"f" day 3 May
Tide Zone "E"
Mud Slough Direct)

0755 -	0809	-6.2
	0822	-6.0

"g" day 4 May
Tide Zone "E"
(Mud Slough Direct)

0800 -	0818	-7.2
	0836	-7.0
	0853	-6.8
	0907	-6.6
	0920	-6.4
	0932	-6.2
	0944	-6.0
	0956	-5.8

COMBINED CORRECTIONS FOR

FATHOMETER 152 SPX

AS USED IN LAUNCH CS 160

SEASON 1956

"A" Scale Fathometer Reading	Corr'n.	"B" Scale Fathometer Reading	Corr'n.
3.5 - 6.6	-0.6		
19.0	-0.5		
30.9	-0.4	30.0	+0.5
42.9	-0.3	42.0	+0.6
61.0	-0.2	60.1	+0.7

STATISTICS FOR HYDROGRAPHIC SURVEY

FIELD NO. WCSP 1456 - REGISTRY NO. H-8282

Vol.No.	Day Letter	Date	H.L.Sdgs.	No.Pos.	Stat.Miles Sdg.
1	a	23 April 56		187	25.9
2	b	24 April	11	191	24.7
1 & 3	c	25 April		41	4.6
2	d	26 April	3	14	2.1
3	e	27 April		91	14.4
3	f	3 May		63	8.6
3 & 4	g	4 May	3	59	7.8
		TOTALS	17	646	88.1
5	h	20 May 57		26 / 672	

Total area, Square statute miles 4.0

LIST OF SIGNALS USED

FIELD NO. WCSP 1456 - REGISTRY NO. H-8282

Name Used In Hydro.	Origin of Signal
ADA	T-11075 - East and taller of three transmission towers.
DOG	T-11075 - East and taller of three transmission towers.
DOS	GUADALUPE SLOUGH near TALL TRANSMISSION TOWER NO 1 1931.
DRAW	DRAWBRIDGE RED TANK 1931.
FOR	GUADALUPE SLOUGH ACROSS BAY TRANSMISSION TOWER NO 4.
GEL	EAST OF JAGEL SLOUGH TRANSMISSION TOWER 1931.
HIGH	T-11073 - West Gable Tall Building.
HER	T-11075 - East, taller of three transmission towers.
IRB	GUADALUPE SLOUGH ACROSS BAY TRANSMISSION TOWER NO 3 1931.
JAG	WEST OF JAGEL SLOUGH TRANSMISSION TOWER 1931.
KID	T-11075 - Taller of two transmission towers.
NORTH	GUADALUPE SLOUGH, NORTH OF, TRANSMISSION TOWER 1931.
NOT	T-11075 - Eastern and taller transmission tower.
OFF	T-11075 - Center of three transmission towers.
RED	T-11075 - Center of three transmission towers.
RUN	T-11075 - Eastern of three transmission towers.
SAY	T-11075 - Eastern and taller of three transmission towers.
SIR	T-11075 - Center of three transmission towers.
SOUTH	GUADALUPE SLOUGH, SOUTH SIDE, TRANSMISSION TOWER 1931.
SOW	T-11075 - Taller of two transmission towers.
TALL	T-11075 - Single tall transmission tower.
TANK	T-11077 - Aluminum tank Alviso
UNO	GUADALUPE SLOUGH, NEAR, TRANSMISSION TOWER NO 1 1931.
WEL	T-11075 - Eastern of three transmission towers.

Processing Office Notes H-8282 (WCSP-1456)

SMOOTH SHEET

The smooth sheet was hand constructed and checked in the Seattle Processing Office, using standard methods. Shoreline and topo signals were transferred from topo sheets as listed by the hydrographer. ✓

CONTROL OF HYDROGRAPHY

Statements in this paragraph pertain to the smooth sheet plotting only. See Proj Instruction dated 9 Nov 1956

This sheet was plotted using film positives of the boat sheet for locating the positions. Representative positions were first plotted with a protractor and compared with the film. On this sheet only about 19% of the positions were protracted, 121 out of 646, the balance being transferred from the film or directly from the boat sheet. | see #7 Review

ADEQUACY OF SURVEY

The survey appears to be complete and adequate for charting and except for the displacement of the zero curve at Lat. 37° 27'.8 Long. 122° 02'.5, as noted in notes for H-8281, the depth curves at the junction with H-8281 can be adequately drawn. | 0 curve in adequate agreement

COMPARISON WITH PRIOR SURVEYS

The shoreline in Gray Goose Slough, as sketched on the boat sheet was transferred to the smooth sheet and left in pencil. | Inked on s/s in red.

A comparison with H-5139 and H-5140 was made and numerous differences were noted. None of which are considered too important, considering the area. Mowry Slough on H-5139 appears to have considerable change in shoreline, possibly due to the salt pond dikes along the shore. | see #5 Review

Remarks by the hydrographer under this heading appear to cover the subject adequately.

COMPARISON WITH CHART

The smooth sheet was compared with chart 5533 corrected to 28 May 1955. | see #6 Review

Statements in the preceding paragraph and those by the hydrographer under this heading apply to this one only ✓

Approved and forwarded:

Curtis Le Fever

CURTIS LE FEVER, CAPT., C&GS
SEATTLE DISTRICT OFFICER

Respectfully submitted

William M. Martin

WILLIAM M. MARTIN
Supervisory Cart., C&GS

Geographic Names penciled on H-8282

ALVISO SLOUGH
CALAVERAS PT.
COYOTE CREEK
~~GRAY GOOSE SLOUGH~~ obliterated by salt pond
GUADALUPE RIVER
JAGEL SLOUGH
MOWRY SLOUGH
MUD SLOUGH

8 3 wab

8 3 9 14c

West Coast Field Party
P.O. Box 431,
Garibaldi, Oregon

13 June 1957

To: The Director
Coast and Geodetic Survey
Washington 25, D. C.

Subject: Additional Sounding Lines on Sheets H-8281 and H-8282.

Reference: (a) Your letter 22-rct of 30 April 1957
(b) My letter of 26 April 1957, same subject.
(c) Your letter 22/MEK of 21 May 1956, same subject.

The additional sounding lines required on these sheets were run by this party on 20 May 1957. In order that the smooth plotter may know how the tide corrections were determined, there follows a brief description of what was done.

1. In our files was found an abstract of tide staff data for Guadalupe River, Mud Slough and other points where portable gages were installed for the work in 1955 - 56. This abstract gave the elevations of various bench marks above staff zero at each place, as well as the reading of MLLW on each staff. The old staff was found still in place at Guadalupe River, so levels were run to the nearest bench mark for a check. At Mud Slough, a new staff was nailed in place and tied to the nearest bench mark so that the reading of MLLW could be determined by comparison with the 1956 leveling.

2. Readings on each of these tide staffs were taken at 15-minute intervals while the hydrographic party was in each tide zone applicable.

3. One line, at the entrance of Newry Slough, fell in a zone where a mean of the Mud Slough and Dumbarton Bridge tide gages was previously used to get the reducer. For this line, the reducers for our work were obtained by applying corrections to our staff readings at Mud Slough, the corrections being arrived at by inspection of curves plotted in 1956 when both gages were in operation

4. The remaining lines came in tide zones where either Mud Slough tides, or Guadalupe River tides, were used without corrections.

5. For all except the Guadalupe River lines, a sounding pole was used, care being taken not to let it penetrate the soft mud found throughout the area.

6. The only problem with signals was trying to see them through the rain squalls, as natural objects (power line transmission towers) were used throughout the survey.

Arthur L. Wardwell
CDR, C&GS
OinC, West Coast Field Party

w

cc: Seattle Processing Office
San Francisco District Officer

RHC

Form 712
(11-30-55)

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens: 17 June 1957

Plane of reference approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 8282

Locality San Francisco Bay, Calif.

Chief of Party: A. L. Wardwell in 1957

Plane of reference is mean lower low water, reading

2.4 ft. on tide staff at Mud Slough

8.4 ft. below B.M. K626 (1938)

3.1 ft. on tide staff at Guadalupe River

12.7 ft. below BM 1 (1953)

Height of mean high water above plane of reference is 8.6 feet.

Condition of records satisfactory except as noted below:

William Thofus
Signature

Chief, Tides Branch

Comm-DC 34330

RHC

Form 712
(11-30-55)

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

10 May 1957

Plane of reference approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 8282

Locality South San Francisco Bay

Chief of Party: H. G. Conerly in 1956

Plane of reference is mean lower low water, reading

3.2ft. on tide staff at Guadalupe River

20.9ft. below B.M. P 876 (1954)

3.8 ft. on tide staff at Mud Slough

8.4 ft. below B.M. K 626 (1938)

Height of mean high water above plane of reference is:

Guadalupe River ..... 8.6 feet

Mud Slough. ..... 8.6 feet

Condition of records satisfactory except as noted below:

William Thomas
Signature

Chief, Tides Branch

Comm-DC 34330

GEOGRAPHIC NAMES

Survey No. H-8282

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									RFN	1
San Francisco Bay										2
Alviso										3
Alviso Slough										4
Guadalupe River			(tide station)						B.G.N.	5
Tagel Slough										6
Coyote Creek									B.G.N.	7
Calaveras Point										8
Mud Slough			(tide station)							9
Mowry Slough										10
(Gray Goose Slough)	—do not use—see p. 2.									11
										12
				Names approved 5-10-57. L. Heck						13
										14
Dumbarton Highway Bridge			(tide station off sheet)							15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8282....

Records accompanying survey:

Boat sheets .1... (Returned to Field); sounding vols. ..4+1; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 3-Envelopes + 1-Env.H Day.

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

and 2-Film Positives.....

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

Number of positions on sheet		..672..
Number of positions checked *see notes to reviewer*		...115..
Number of positions revised		...5..
Number of soundings revised (refers to depth only)		.....15→ For soundings revised in addition to these
Number of soundings erroneously spaced		.....0.. See Review of H-8281 (1956-57)
Number of signals erroneously plotted or transferred		.....NONE
Topographic details	Time	...5..
Junctions	Time	...5...
Verification of soundings from graphic record	Time	.....10...

Verification by John T. Ballahan Total time .90... Date Aug. 30, 1957

Reviewed by ..... Time .45... Date 10-14-57

M-2232-1

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8282 FIELD NO. WCSP-1456

California, South San Francisco Bay, Coyote Creek

Surveyed April 1956 - May 1957 Scale 1:10,000

PROJECT NO. 1256

Soundings:

Hand lead
808 Fathometer
Pole

Control:

Sextant fixes on shore signals.

Chief of Party - A. L. Wardwell and H. G. Conerly
Surveyed by - H. G. Conerly, A. L. Wardwell, J. R. Richards and P. J. Taetz
Protracted by - C. R. Lehman
Soundings plotted by - C. R. Lehman
Verified and inked by - J. C. Gallahan
Reviewed by - I. M. Zeskind
Inspected by - R. H. Carstens

Date: 10/14/57

1. Shoreline and Control

The shoreline originates with reviewed air-photographic surveys T-11075, T-11076 and T-11077 of 1952-53 supplemented by revisions by the field party which are shown in red ink.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated. The 3-ft. curves were drawn to better delineate the bottom configuration.

This is a survey of Coyote Creek and sloughs at the southeast end of San Francisco Bay. Mud flats, channel deeps and shoals are noted throughout the surveyed area.

4. Junctions with Contemporary Surveys

The present survey joins H-8281 (1956) at 122°0.2'45" on the west and extends to the limits of the navigable parts of the sloughs and river on the north, east and southeast. The junction with H-8281 will be considered in the review of that survey. See Review of H-8281 (1954-57) L.S.S. 5/25/59.

5. Comparison with Prior Surveys

A. H-636 (1857-58), 1-10,000
H-2414 (1898), 1-10,000
H-2415 (1898), 1-10,000

A comparison between the prior and present surveys reveals many changes in shoreline and bottom configuration. These changes are attributed to the action of the current on the bottom, the depositing of sediment from the tributary streams and sloughs and the construction of salt ponds along the shore. The axes of the natural channels and river beds of Guadalupe River and Alviso Slough have shifted in position with the resultant changes in depths. Progressive shoaling has occurred in Coyote Creek and the tributary streams since the 1857 survey. An example of this shoaling occurs in lat. 37°27.94', long. 122°00.90' where a prior depth of 10 ft. falls in present depths of 1 ft. Both accretion and erosion are noted throughout the area of the present survey, as for example, in the vicinity of lat. 37°28.2', long. 122°02.0', where the shoreline has accreted as much as 175 meters. Gray Goose Slough has been cut off by a levee and no longer exists south of lat. 37°27.7'.

The present survey is adequate to supersede the prior surveys within the common area.

B. H-5139 (1931), 1-10,000
H-5140 (1931), 1-10,000

A comparison between the prior and present surveys shows changes in shoreline and bottom configuration which are attributed to causes similar to those described in the paragraph above. General shoaling has occurred in Coyote Creek within the area of the present survey, as for example, in lat. 37°28.0°, long. 122°01.1', where a prior depth of 12 ft. falls in present depths of 8 ft. In Coyote Creek in the vicinity of lat. 37°27.85', long. 121°59.2', the shoreline has accreted about 230 meters. Only minor 1-2 ft. differences in depths are noted in Guadalupe

River. The present depths here are generally deeper than the prior depths. In Alviso Slough differences in depths of as much as 6 ft. are noted, as for example in lat. 37°27.20', long. 122°01.11', where a prior depth of 14 ft. falls in present depths of 8 ft. Here the present depths are generally shoaler than the prior depths. Mud Slough has shoaled considerably, as for example the 6-ft. sounding charted in lat. 37°28.20', long. 121°58.80', falls in present depths of 1 ft. Gray Goose Slough has been cut off by a levee and no longer exists south of lat. 37°27.7'.

The present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 5531 (Latest print date 5-6-57).

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys which need no further consideration, supplemented by a few critical soundings from the boat sheet of the present survey. Differences of as much as 13 ft. between the charted and present survey depths are noted. Some examples of these differences are as follows:

Charted Depth-ft.	Charted Location Latitude	Longitude	Source	Present Survey Depth-ft.
6	37°27.70'	122°02.21'	H-5139	10
2	37°27.88'	122°00.27'	H-5140	-1
4	37°28.05'	121°59.60'	H-5140	1/2
17	37°27.93'	121°59.21'	H-5140	4

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

The only aids to navigation falling within the limits of the present survey are Red Nun Buoy No. 6 and Channel Light No. 5 in lat. 37°27.5', long. 122°03.0'. These aids are plotted on contemporary survey H-8281 (1956) which joins the present survey on the west and will be considered in the review of that survey.

7. Condition of Survey

a. The sounding records and the Descriptive Report are complete and comprehensive.

b. The positions of the sounding lines were transferred to the smooth sheet principally from film positives of the

boat sheet. Where the films were not clear or where critical data was involved, the positions were protracted on the smooth sheet. (See Special Report No. 153, 1956 by Curtis Le Fever and W. M. Martin.)

In order to check the accuracy of the transferred positions, the verifier checked 115 positions out of a total of 672 positions taken during the survey. Only five positions were revised on the smooth sheet from 1-2mm.

This method of plotting positions of sounding lines resulted in no undue discrepancies in this area of relatively smooth bottom. However, all critical data such as pinnacles, reefs, shoals, aids to navigation, etc., should continue to be protracted in the regular manner on the smooth sheet.

8. Compliance With Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

This is a basic survey and no additional field work is recommended.

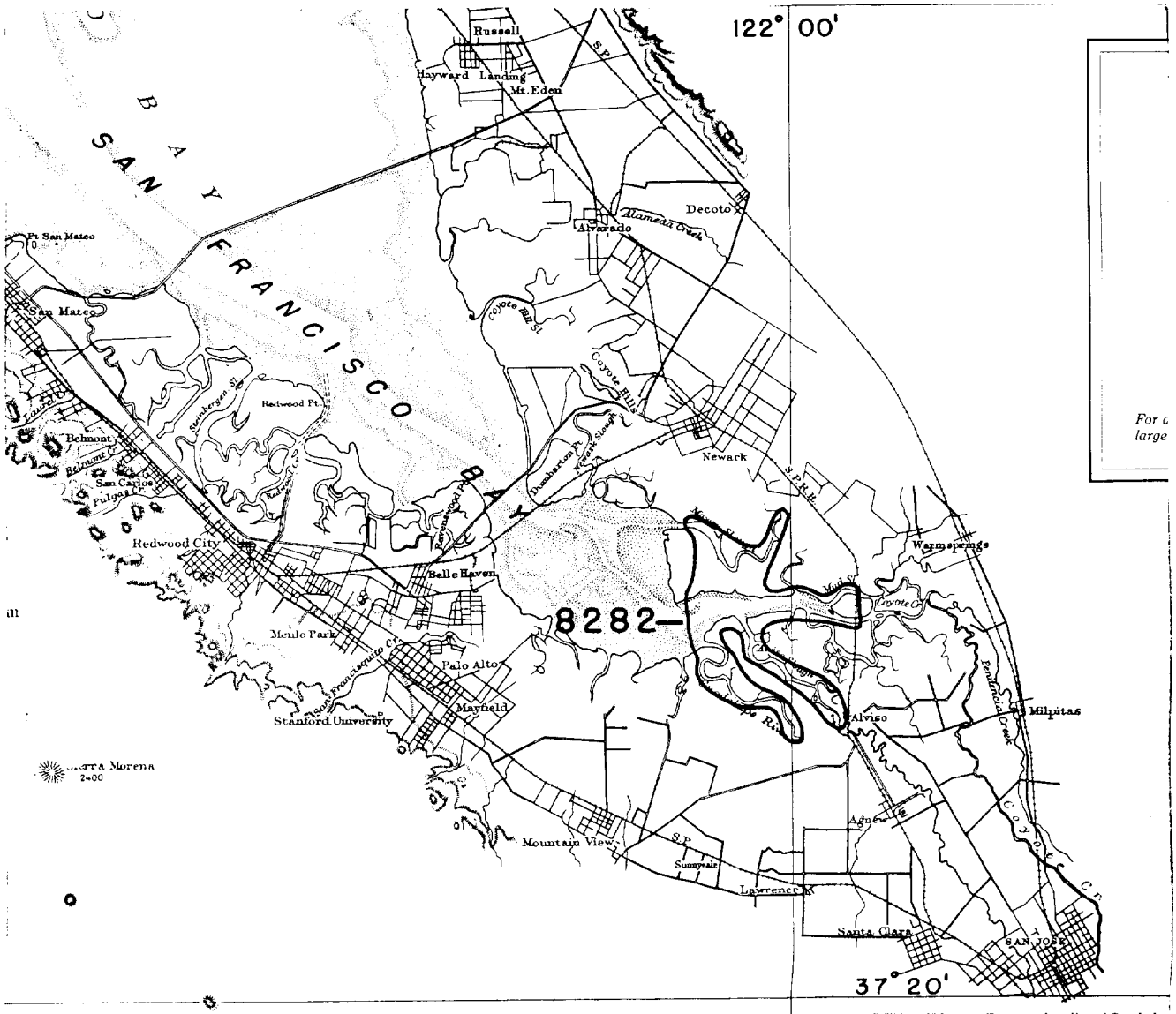
Examined and Approved:

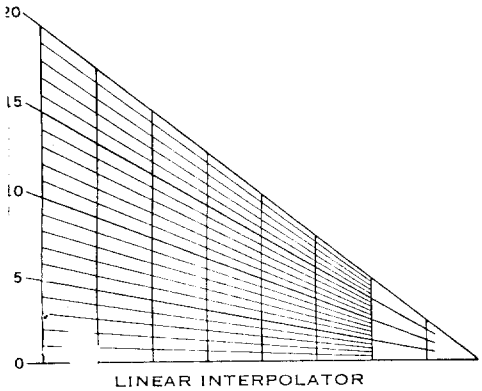
Max G. Ricketts
Chief, Nautical Chart Branch

Charles A. Schanck
Chief, Division of Charts

Karl B. Jeffers 11/12/57
Chief, Hydrography Branch

Samuel B. Grenell
Chief, Division of Coastal Surveys





LINEAR INTERPOLATOR

LORAN

GENERAL EXPLANATION

FREQUENCY CHANNEL (preceding H)

2.....1850 kc.

BASIC PULSE RECURRENCE RATE

H (high)..33⅓ pulses per second

SPECIFIC RECURRENCE RATES assigned for station identification (following H)

2, 5

EXAMPLE: 2H5

RATES ON THIS CHART

2H5

The numerical exponent with the skywave correction indicates the recurrence rate to which it applies.

EXAMPLE: $+0^{45}$

ABBREVIATIONS (For complete list of Symbols

Lights: F. *fixed,* Fl. *flashing,* Qk. *quick,*
Occ. *occulting,* Alt. *alternating,* Gp
M. *nautical miles,* m. *minutes,* se
DIA. *diaphone;* vis. *visible;* SEC. *se*
D. *destroyed, to be reestablished;* Lig

Buoys: C. *can,* N. *nun,* S. *spar,* REF. *reflec*
Day Beacons: △, *white unless otherwi*

R. Bn. *radiobeacon.*

C.G. *Coast Guard Station;* R. Tr. *radio tower*

Cl. clay, Co. coral, G. gravel, Grs. grass, M.
bk. black, br. brown, bu. blue, gn. green, g
hrd. hard, rky. rocky, sft. soft, stk. sticky.
(23) *Wreck, rock or obstruction swept clear to*
(2) *Rocks that cover and uncover, with height*
P.D. position doubtful; E.D existence doubtfu
Wrecks not considered dangerous to surfa
Wrecks which may be dangerous to surfac

HEIGHTS *in feet.*

Chart - 5402

AUTHORITIES

Hydrography and topography by the Coast and

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8282

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
12/6/57	5531	F.G. McGann	~~Before~~ After Verification and Review fma
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			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.