

# 5135

Diag. Cht. No. 5530-4

<small>Form 504 Ed. June, 1928</small>	
<b>DEPARTMENT OF COMMERCE</b>	
<small>U. S. COAST AND GEODETIC SURVEY</small>	
<small>R. S. Patton, Director</small>	
<i>State:</i> <u>California</u>	
<b>DESCRIPTIVE REPORT</b>	
<i>Topographic</i> <i>Hydrographic</i>	}
	<i>Sheet No.</i> <b>5135</b> <i>Field #</i> 4
<b>LOCALITY</b>	
<u>South San Francisco Bay</u>	
<u>Vicinity of Dumbarton Bridge</u>	
<u>1931</u>	
<b>CHIEF OF PARTY</b>	
<u>G. C. Jones</u>	

# 5135

Descriptive Report to Accompany Hydrographic Sheet, Field No. 4

South San Francisco Bay.

Instructions Dated September 8, 1931

Limits of sheet and nature of sounding area.

South San Francisco Bay from northwest of Ravenswood Slough to 1 mile south east of Dumbarton Railway Bridge. Ravenswood Slough with its connection to Westpoint Slough, Newark Slough, and the lower end of the channel to Charleston Slough are included.

With the exception of the above sloughs and the main South San Francisco Bay channel the entire sheet is mudflats with occasional shellbanks. None of the shellbanks is more than a foot or so above the adjoining mudflat.

Survey methods.

Standard methods were used throughout except that a sounding pole was used on the flats. Sufficient triangulation stations were located to allow them to be used almost exclusively for sextant fixes.

A close examination was made in the main channel with particular attention to outlining its banks, but the small amount of doubtful work that had to be rejected in smoothplotting all fell on the bank. For that reason there is one fairly wide gap in the development of the channel bank. However there is nothing to indicate that the banks are otherwise than straight and clear, and there is much evidence that they are so. The crosslines in the channel agree with the regular scheme save in very few instances and in no case is the disagreement more than two feet. Had it been practicable to smooth plot the work up to date as the survey was made any such disagreement would have been investigated. Generally the soundings agree within the nearest foot, and there is no evidence to throw doubt on any of the channel lines.

Dangers.

No uncharted dangers were found. The point of the mudflat at the head of the main channel has shifted and the change is described below.

Channels.

There are no important channels aside from the main channel which is deep, clear and straight to the point at the southeastern extremity of the sheet where it begins to break up.

The lower portion of the channel to Charleston Slough or Palo Alto Yacht Harbor is on this sheet. This channel is marked (the sheet no. 5 portion) by small barrel on pipe beacons but is not of great importance because of the fact that a bar across it on sheet no. 5 is nearly bare at low water.

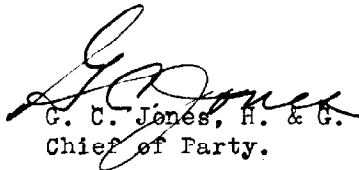
The channel into Newark Slough is also unimportant although it carries 4 ft. at low water. It is narrow, crooked and unmarked and is unused except by small scows and launches at high tide.

Comparison with previous surveys.

The only important change found is at the head of the main South Bay channel at the southeastern extremity of the sheet. The point of the flats splitting the channel has built downstream but is not as shallow as formerly. The shallowest spot on this portion of the flat is now  $4\frac{1}{2}$  ft. in lat.  $37^{\circ} 29.57'$ , long.  $122^{\circ} 05.45'$ . This position is about 350 meters northwest of the present charted 3 ft. spot. More development work than is shown on the sheet was done at this point by drifting over the spot with the current and sounding continuously with the pole. No less depths were found and the record and sheet were not complicated by recording the positions and soundings.

Statistics for sheet no.4.

Miles (stat.)	Soundings	Positions
175.1	11,875	1,605

  
G. C. Jones, H. & G. E.  
Chief of Party.

TRIANGULATION STATIONS USED ON HYDROGRAPHIC SHEET NUMBER 4 \$

Ben Transmission tower taller of two North of Ravenswood Slough,  
At bend in line 1931

Rav Tall transmission tower center Ravenswood Slough 1931

Dum Dum 1931

Vet Tank Veterans Hospital, Palo Alto 1931

Tip Tip 1931

Bart Dumbarton railroad ~~span~~ bridge drawspan 1925

East East tower Dumbarton highway bridge 1931

✓ Steel Steel Windmill East Shore 1931

Hill Red Hill 1906

South South Red Hill 1895

Ark Newark Slough Drawspan light 1925

Trip Tripod on highest part of most Southern of Coyote Hills 1931

✓ Tort Tank, Retort, Magnesia Works 1931

Topographic Signals Used.

Lag Flag on North East corner of small house 1931

Last Last Transmission tower in line 1931

Yel Yellow tank on house West of Weras Dairy 1931.

Section of Field Records  
Report on H-5135  
South San Francisco Bay, Cal.

Chief of Party - J. C. Jones  
Surveyed by - J. C. J. & L. P. Raynor  
Protracted by - H. G. Conerly  
Soundings plotted by - W. J. C.  
Verified & Inked by - Harold W. Murray

1. This survey was executed in conformity with the General & Specific Instructions.
2. There are few cross-lines on this sheet but agreement is satisfactory.
3. The depth curves can be completely drawn within the limits of this sheet.
4. Field Protracting & Plotting. The protracting is good. Verification of soundings could have been materially simplified if more attention had been given to irregular sounding intervals.
5. Channel markers were not plotted on the smooth sheet by the field party and were added in the office by the verifier.

- forms information obtained in the records.
6. A change in the tide reduced of about 2 feet materially affected the agreement of "F" day as compared with the original smooth plotting.
  7. An apparent disagreement of soundings is prevalent at the bridge near  $\Delta$  East. However they are considered accurate because of the scouring action of the currents around the piers.
  8. It would have been desirable if the lines running parallel to the channel in the southeast portion of the sheet had been more uniformly spaced. However, weather conditions, to a certain extent prevented this.
  9. An error of 20 ft was found in a reduced sounding at pos. 37N by the aid of the curves.
  10. Soundings were plotted in half-feet up to a depth of 6 $\frac{1}{2}$  feet to facilitate a study in bottom changes.
  11. Overlap with H-5131. A 22-ft sounding of 2A day was moved as far east as

possible to aid development of the curves.

Trouble was experienced with the time interval at pos. 54-55K in order that a better crossing might be effected. No information was available to retrace the 6 ft spit in long 123° 9' 6".

Agreement in general is good.

12. Topographic names were added by the verifier and sufficient shore line to embrace the entire work.

13. Respectfully submitted:

March 29, 1932

Hawley W. Murray

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5135  
Vicinity of Dumbarton Bridge, S. San Francisco Bay, Calif.  
Surveyed in 1931.

Chief of Party - G. G. Jones.  
Surveyed by - G. G. Jones and L. P. Raynor.  
Protracted and soundings plotted by - H. G. Conerly.  
Verified and inked by - Harold W. Murray.

1. Records are well kept, and the survey conforms to the general requirements as well as to the Special Instructions for this project.

2. Soundings on the flats were taken with the pole. There are no cross-lines. Soundings in the channels were taken with the lead line. The crossings are generally satisfactory usually within one foot or less. Line 54-55K at latitude  $37^{\circ}31'.8$  longitude  $122^{\circ}09'$  fails to cross with 1-2K by two feet. The soundings were taken while a strong flood current was running and it is believed that the slanting or bowing of the leadline may account for the greater depth read by the leadsman.

At latitude  $37^{\circ}29'.1$  longitude  $122^{\circ}07'$  southward of the channel marker, a strict spacing by time of 4-5 Q would throw a  $7\frac{1}{2}$  on the channel side of a 10 foot depth. A change was made from pole to leadline and the time column of the sounding record shows evidence of erasure. As the bank is steep and a small difference in time would make a big difference in depth the sounding was not plotted and a note to that effect was made in the record.

Depth curves can be drawn except in some of the narrow sloughs where single channel lines only were run. Depths on the flats were plotted to  $\frac{1}{2}$  foot to facilitate the study of silting effects.

3. Junction with adjacent contemporary survey sheets is satisfactory.

A comparison with H. 2413 and H. 2415 (surveys of 1898) shows many changes in details on the flats and in the sloughs, This is especially noticeable at the entrance to Ravenswood Slough where the channel has shifted from the west to the east side of a small island.

The flats southeastward of the railroad bridge have from  $\frac{1}{2}$  to 2 feet more water over them but the channel close to the west shore has been silted up entirely. Some scouring has taken place in the main channel in the vicinity of the two bridges and the pipe line.

4. Recommendation: No further work is deemed necessary in the area covered by this sheet.

Attention is invited to a statement by the Chief of Party that local navigation is more dependent on accurate tidal information than on detailed large scale charts. (Descriptive Report H. 5140).

5. Reviewed by R. J. Christman, March 1932.

Approved: A. M. Sobieralski. (signed)  
(see next page)



H. 5135

NOTE BY A. M. SOBIERALSKI

Any comparison with previous surveys in this area should take into consideration a study of the tidal plane. Unless tide observations are taken at points sufficiently close to the work and there is a definite connection between the planes used in the two surveys, differences may arise, although this explanation would hardly account for the large differences. It has been suggested that oyster beds may have been dredged, accounting for greater depths.

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5135

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.

Field No. 4

REGISTER NO. 5135

U. S. COAST & GEODETIC SURVEY  
LIBRARY AND ARCHIVES  
DEC 15 1931  
Acc. No.---

State California

General locality South San Francisco Bay.

Locality Vicinity of Dumbarton Bridge  
~~Portwood Slough to southeast of Dumbarton Bay Bridge.~~

Scale 1:10,000 Date of survey May 28th to Sept. 3rd 1931

Vessel Project #70. Chartered launch No. B414.

Chief of Party G. C. Jones

Surveyed by G. C. Jones and L. P. Baynor

Protracted by H. G. Conerly

Soundings penciled by H. G. Conerly

Soundings in ~~fathoms~~ feet

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated September 8, 1930, 19

Remarks: