

22

3968

D. & H. SURVEY
L. & A.
SEP 28 1917
App No.



Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: *California.*
11-5613

DESCRIPTIVE REPORT.

Hyd. Sheet No. **3968**

LOCALITY:

San Francisco Bay,
Approaches - Boneta
Chan to Point
San Pedro

1917

CHIEF OF PARTY:

L. O. Colbert.

3968

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. **3968** (Field No.1)

State **California**

General locality **San Francisco Bay**

Locality **Northern Part of Bay to Bonita Channel**

Chief of party **L.O. Colbert**

Surveyed by **Wire Drag Party No.4**

Date of survey **January-February 1917**

Scale **1-20,000**

Soundings in **Feet**

Plane of reference **Mean lower low water**

V.A. Endersby, D.O.

Protracted by **W.H. Clark, Aid.** Soundings in pencil by **W.H. Clark, Aid.**

Inked by **W.H. Clark, Aid** . Verified by **Geo.R. Kantzler, D.O.**

Records accompanying sheet (check those forwarded):

✓ Des. report, Tide books, Marigrams, 3 Boat sheets,

 1 Sounding books, 4 Wire-drag books, Photographs.

Data from other sources affecting sheet

Remarks: **Color scheme for drag depths as follows:-**

- 40 feet and over Red**
- 30-39 feet..... Blue**
- 20-29 feet..... Orange**
- 10-19 feet..... Brown**

EPO



DEPARTMENT OF COMMERCE

HYDROGRAPHY, ETC. (C)

COAST AND GEODETIC SURVEY

E. Lester Jones.

Superintendent

DESCRIPTIVE REPORT

to accompany

WIRE DRAG SHEET No. 3968 (1)

SAN FRANCISCO BAY

CALIFORNIA

By

WIRE DRAG PARTY NO. 4

L. O. Colbert, Chief of Party

1916-7

Scale 1-20,000

Instructions dated Nov. 21, 1916

DESCRIPTIVE REPORT
To accompany
WIRE DRAG SHEET No. 3968

Page 1.
L.O.C.

NORTHERN PART of SAN FRANCISCO BAY.

LOCALITY AND LIMITS OF SHEET:

This sheet embraces the examination by means of the wire drag of a part of San Francisco Bay California. The area covered includes the Golden Gate, Bonita Channel and that portion of San Francisco Bay west of a line joining Angel Island, Alcatraz Island and the Exposition Grounds and north of a line between Point Campbell on Angel Island and Southampton Shoal Light, including Raccoon Strait. The northern limit is defined by a line from The Sisters to Point San Pablo

North of Angel Island the western limit is bounded by the five-fathom curve, and the eastern limit by the five-fathom curve nearest to the eastern shoreline.

DEPTH DRAGGED:-

In Bonita Channel the fairway was dragged to 44 feet except at the eastern end where the average depth was about 30 feet. On the offshore side and over the shoal a narrow strip was dragged with a least depth of 25 feet.

In the Golden Gate the depth ranges from 45 to 50 feet. In the vicinity of Mile Rocks there is a narrow area inshore in which the drag was set to 30 feet. In Bonita Cove also the inshore area was covered by a shoaler drag, from 25 to 30 feet.

West of Lime Point the deep water area was covered by 40 to 47 feet. Where less than these depths were charted, shoal drags were used. In the vicinity of Point Knox and Point Stuart the depths were about 27 to 29 feet.

In Raccoon Strait the greatest area was covered by 41 to 46 feet. On the Angel Island side a depth of 27 feet was used.

DEPTH DRAGGED (CONT):-

North of Angel Island the greatest area is covered by a depth of 27 to 30 feet. In the vicinity of Red Rock Shoal two drags drawing but 18 feet were used. At the northern end of the sheet there is a drag strip with a least depth of 46 feet.

SPLITS:-

There was left a small area centered by Red Rock Buoy No.2 over which the drag was not run. Off Bluff Point there is a small uncovered area caused by an error on the boat sheet upon which sheet this spot appears as covered. This was due to using the wrong plotted position for signal " Ang " on D day.

SHOALS:-

1. In Bonita Channel a sounding of 45 feet with a rocky bottom was obtained 480 meters from the location of Centissima Rock as plotted on the chart.

2. In Bonita Cove near Point Bonita the drag fouled on numerous occasions, partly due to uncharted boulders and partly to the fact that the drag was swept inshore by the strong eddy inside the point. All these boulders were located and are plotted on the sheet but no attempt was made to drag over them. The depths vary from 21 to 33 feet.

3. Off Mile Rock, a drag drawing 40 feet and passing very close to the Rock fouled bottom, but no less depth than 66 feet could be obtained on account of the strong current. It is possible that one of the buoys was drawn beneath the surface by the strong undertow and that the bight of the drag dropped sufficiently to foul the bottom at this depth. It was necessary to pick up the drag before the investigation could be completed in order to save the equipment and to prevent damage to the launches. A heavy swell began running about the time the drag grounded.

4. At Fort Point, a drag drawing 48 feet grounded near the buoy. Two soundings of 39 and 45 feet rocky bottom were obtained. These spots were not dragged over because they were too close to the buoy with strong currents running.

SHOALS (CONT):-

However a drag with an effective depth of 29 feet was taken within 40 meters of these soundings.

5. About 1 1/8 miles 187° (S x E Mag) from Point Knox on Angel Island a small pinnacle with 29 feet at mean lower low water was found. This was a very small spot on a shoal about 200 meters in diameter. An effective depth of 28 feet was taken over this shoal.

6. In the vicinity of Point Knox buoy No.2 two soundings of 24 and 29 feet respectively were obtained with hard sand bottom. The drag was not swept over these.

7. One-half a mile west of the buoy a 38 foot shoal with hard sand bottom was located. A drag with an effective depth of 29 feet cleared this shoal.

8. In Raccoon Strait about 1/3 of a mile north of Point Stuart a rocky shoal with a least depth of 31 feet was found. Soundings were taken varying from 31 to 80 feet in determining the limit. This shoal was covered by a drag drawing 27 feet.

9. On the western edge of Southampton Shoal about three-quarters of a mile north of the Light, the drag grounded and a sounding of 19 feet with a sandy bottom was obtained.

10. About a mile south of Red Rock and 400 meters west of Red Rock Buoy No.2 two soundings of 31 and 32 feet were taken in sandy bottom. Later a drag set at 24 feet cleared this area.

11. About 950 meters northeast of Red Rock Buoy in the Channel between the two five fathom curves a drag set at 29 feet grounded. The least sounding obtained was 30 feet with mud bottom. It was noticed at this time that the bight of the sections were drawing more water than the depths set especially when the drag was not well stretched. This spot was later swept by an effective depth of 18 feet.

SHOALS (CONT):-

12. About a mile west of Red Rock a drag drawing 48 feet grounded in several places. Soundings of 37, 38 and 39 feet on an extensive area were obtained. The bottom was mud. A drag set at 30 feet was swept over this area.

13. A sounding of 34 feet taken about one-half a mile west of Red Rock was cleared by a drag depth of 29 feet. The bottom was hard sand.

CONTROL OF THE SURVEY:-

The survey was controlled by triangulation stations established or recovered by Assistant E.W. Eickelberg during the course of the drag work. From these stations, certain other stations and prominent objects were cut in or located by the topographic revision party.

The scale of the smooth drag sheet is 1-20,000. The work was done on boat sheets on the scales of 1-10,000 as the work was more clearly defined on this scale, especially where it was necessary to use short and frequent drags.

TIDAL REDUCTION:-

The tidal reduction for the records of this sheet were obtained from observations at automatic gauges at the Presidio, at Point Richmond, and at McNears Point. The gauge at the Presidio was used for all areas south and west of the western end of Raccoon Strait. The gauge at McNears Point was used on but one days work, that at the extreme northern end of the sheet. For the remaining area the gauge at Point Richmond was used.

CURRENTS:-

No observations were made to determine the direction and velocity of the currents because the more important work of dragging occupied the entire time of the launches when weather conditions were favorable. The currents of

CURRENTS (CONT):-

and
the Bay and Golden Gate are very strong at certain points there are heavy tide rips and swirls during the periods of the greatest tidal differences. These rips are most prominent off Lime Point and Point Cavallo.

CONCLUSION:-

The progress of the work was hindered by the frequent use of short drags and by adverse currents met while dragging due to change of tide. The use of the short drag was made necessary by the numerous charted shoals occurring in deep water and by the strong tidal flow which made it impossible to manou[^]ver the drag in any direction except with the current. In setting out the drag it was necessary to start at a considerable distance from the beginning of the area to be dragged in order that the drag should be in position when ready to start the line. At times this caused considerable overlap[^], which was also the case when covering a small area left between two successive drag lines due to the current conditions. When the drag grounded, the strong current made the work of locating the shoal and clearing difficult and dangerous.

During the progress of this work the launches of the party were moored in Richardson Bay off the town of Sausalito in very shoal water, going aground on the extreme run-outs in soft mud.

Respectfully submitted,



Hyd. & Geo Eng C & G Survey,
Chief, Wire Drag Party No.4

STATISTICS FOR WIRE DRAG SHEET No. 3968

<u>Day</u>	<u>No. Angles</u>	<u>No. Stat. miles</u>	<u>No. retained Sdgs.</u>
B	39	1.3	1
C	46	2.6	
D	87	4.5	2
E	282	8.9	5
F	254	7.4	9
G	298	9.1	
H	122	1.7	5
J	52	1.9	3
K	134	3.2	2
L	336	7.0	4
M	264	5.7	4
N	114	4.3	
P	198	3.0	2
Q	584	10.4	3
R	170	2.0	
S	269	5.8	1
T	192	3.6	
U	166	3.5	1
V	42	1.2	1
W	244	4.6	
X	276	5.6	1
Y	360	7.5	1
Z	229	6.3	1
A'	287	5.9	
B'	272	6.8	
C'	305	8.6	
D'	62	2.0	
E'	88	1.5	1
Total	5772	1359	47

Total area 28 square statute miles.

BUY A U. S. GOVERNMENT BOND OF THE SECOND LIBERTY LOAN.

ADDRESS
U. S. COAST AND GEODETIC SURVEY
WASHINGTON, D. C.

REFER TO NO.

5-VEC

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

WASHINGTON

October 17, 1917.

FIELD RECORDS

20

Division of Hydrography and Topography: *HCY*

Division of Charts:

LIBRARY ✓

Tidal reducers are approved in
5 volumes of Sounding records for

Place with descriptive report
of hydrographic sheet No. 3968

G.P.

Drawing Section.

HYDROGRAPHIC SHEET 3968

San Francisco Bay, California
L. O. Colbert in 1917.

Plane of reference is
Mean lower low water, reading

5.5 ft. on tide staff at Presidio
4.2 " " " " " Hunters Point.

L. P. Shidy

Acting Chief, Section of
Tides and Currents.

AND REFER TO NO.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

March 19, 1920.

To: The Chief of Section of Field Records.
From: A. L. Shalowitz, Draftsman, C. & G. Survey.
Subject: Verification of Hydrographic Sheet # 3968.

The records for this sheet were very well kept and notes covered practically all doubtful places. A little confusion was caused by the discovery of the changed tow line length for the end launch after the smooth sheet was plotted and inked. This occurred on E, F, G, and H days. Where the use of the corrected distance would have meant a widening of the drag strips, it was not changed on the smooth sheet except where the line was a limiting line. In all cases the policy was adopted that it was better to err on the side of safety.

The plotting of the soundings was good with the exception of sounding at 5 F of 31 ft. This was plotted about 230 meters to the northwestward of its true position.

The plotting of the drag work was generally good. V.A. Endersby was inclined to be somewhat careless. W. H. Clark's plotting was good but in plotting his depth curves he fell into the error of beginning depth change line at first buoy when upright length was being decreased, instead of changing entire section, or when upright length was being increased of not waiting until the entire section was changed, thereby never showing a greater depth than was actually dragged.

Three splits occur on this sheet, two being uncovered by the verification of the sheet and one is covered in the Chief of Party's descriptive report.

The first of these occurs in the Golden Gate and 290° distant 1050 meters from Fort Point Light. It is possible that the greater portion of this split was covered, as at position 20 G the dragging was continued for three minutes after the position was taken before the signal to change ends was sent. As there was no control for the end of this line, it was considered advisable to end the line at position 20 G and it was thus shown on the smooth sheet.

Off Bluff Point about 1300 meters to the northeast a split occurred due to using the wrong plotted position for Signal "Ang" on D day. The boat sheet shows this as covered.

A small split occurs about 1600 meters north of Red Rock. There is a possibility that this split was covered while the drag was being towed from position 36 Y to 38 Y.

There is a good sized area around Red Rock Buoy No. 2 that was not dragged. There is a 22 ft. spot in this area but since an 18 ft. drag was used in the vicinity it would seem that the drag would have been carried in a little closer unless there were special reasons for not doing so.

In the work of verification two departures were made from the old practice. The first was to use the daily progress tracing as a base for making the final tracing of the dragged area, instead of tracing directly from the original sheet. The saving in time was tremendous and increases in direct proportion to the complication of the area. There is no logical reason why this method can not be adhered to throughout, as it does not necessitate any additional time or care to make the first progress tracing. The daily progress sketch must be made with sufficient care and accuracy in complicated spots in order to insure the development of any possible splits. In lesser complicated areas the only additional time involved is that of exercising a little care in following a line on the smooth sheet. This is in no wise comparable to the time it would take to follow on the smooth sheet the maximum effective depths over a certain area. Besides it would mean a duplication of work that was done from day to day when single drag strips were being studied out. The possibility of making an error in tracing ^(the A-D sheet from the original sheet) would be increased even though the original tracing were used as a comparison, for if the original tracing were not carefully executed it would be useless as a guide, and if it were carefully executed then there is no reason why it can not be used for making the final tracing.

The second departure was making the color scheme of the final tracing conform to the color scheme used on the original sheet. The advantage of this method over the old method of no color scheme whatever, where the sheet gave the impression of a hopeless conglomeration of diverse colored areas, is at once apparent. By a mere physical inspection of the final tracing one can immediately see the limiting depths of certain areas. Besides, this method serves as a final check on the draftsman's work, for by merely laying the tracing over the original sheet and observing that there are no red lines within one area surrounded by blue lines nor any blue lines within an area surrounded by yellow lines etc., he has a close enough check on the accuracy of his verification.

A. L. Shalowitz

A. L. Shalowitz.
Hydrographic & Topographic Draftsman

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

SECTION OF FIELD RECORDS

REPORT ON WIRE DRAG SHEET No. 3968.

Surveyed in 1917.

Chief or Party: L. O. Colbert. Surveyed by L. O. Colbert.

Protracted and inked by W. H. Clark and V. A. Endersby.

Verified and area and depth sheet by A. L. Shalowitz.

1. The records, as well as the plan and character of the survey conform to the requirements of the General Instructions.
2. Except that the dredged area does not extend inshore to the 3 fathom curve, the plan and extent of the work satisfy the specific instructions.
3. There is a split 200 x 1400 meters in size north of Angel Island. Engle's survey of 1921 does not show indications of shoaling within the area of the split. There is also a split 700 x 1100 meters in size covering the 22 foot shoal on which Red Rock buoy No. 2 is located. The least depth found on this shoal by Engle in 1921 is 26 feet. No further dragging is required within the area covered by this sheet unless it be desired to cover these splits and the entire area outside of the 3 fathom curve.
4. The field plotting was completed to the extent prescribed in General Instructions.
5. The character and scope of the surveying and also of the field drafting are excellent.
6. Reviewed by E. P. Ellis, October, 1921.

3968 WIRE DRAG
(Additional work 1936)

MAR 12 1937

Acc. No. _____

Diag. cat. No. 5530-4

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R. S. Patton Director

State: California

DESCRIPTIVE REPORT

WIRE DRAG }
Topographic } Sheet No. 15
Hydrographic }

LOCALITY

San Francisco Bay

Yellow Bluff

1936

CHIEF OF PARTY

F. H. Hardy

WIRE DRAG
3968
(Additional work, 1936)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WIRE DRAG
~~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. 15 - 36

REGISTER NO. **H3968** W.P. (Addl. wk. 1936)

State California

General locality San Francisco Bay

Locality Yellow Bluff

Scale 1:10,000 Date of survey December 17, 19 36

Vessel U.S.C. & G.S.S. GUIDE

Chief of Party F. H. Hardy

Surveyed by L. P. Raynor

Protracted by H. G. Conerly

Soundings penciled by H. G. Conerly

Soundings in ~~fathoms~~ feet Wire Drag Depths in Feet.

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by H. G. Conerly

Inked by H. G. Conerly

Verified by W. J. Chovan and L. W. Swanson

Instructions dated June 1, 19 36

Remarks: Proving existance of sunken rock. Dual Control.

DESCRIPTIVE REPORT
to accompany
WIRE DRAG SHEET FIELD NO. 15
Project No. HT-206
San Francisco Bay
U.S.C. & G.S.S. GUIDE
1936

AUTHORITY:

Authority for this work is contained in Director's letter 22/MEK-1995 GU 4 of June 1, 1936.

PARTY, DATE:

The work was done by officers from this ship, Lieutenant-Commander L. P. Raynor in charge, using regular wire drag equipment and the same party hands as had been used during the past season by Lieutenant I. E. Rittenburg. Work was done on December 17, 1936 only, as the following day the wire drag party was disbanded due to lack of funds.

CONTROL:

Control for this work was furnished by triangulation stations and whitewashed signals along the nearby bluff, which were located by planetable using an aluminum mounted sheet. Number Q (Field No.).
T-6517(1936)

METHODS:

H-2248

Since the 1895-96 hydrographic survey, which appeared to have been carefully done, had not found the rock of the previous work, it was believed that the wire drag would be the most useful tool to be used in proving or disproving its existence. Accordingly a 1500 foot drag with 300 foot sections was set out, using standard wire drag equipment including end buoys and weights. Launch No. 28A889 which had been used as drag tender took the inshore end of the drag and acted as guiding launch, while the Launch VIRGINIA took the outer end of the drag and acted as end launch. Although the length of drag was such that "single vessel control" could have been used, the lack of experience in this method made it advisable to use "dual control".

Position of each launch was obtained by the usual three point fix on shore objects, and usual angles to end buoys were taken. It was hoped that the 30 meter range finder could be used by the guide launch, for checking its position but this was not feasible as the shore was followed at 15 to 25 meters distant and the range finder was only calibrated to read down to 50 meters.

The first drag strip was from south to north with an effective depth of 9 feet, over the spot in question and to insure that it

was covered. The ship's dinghy, used as tender, was held over the approximate position of the rock. As the section of the drag 1-2 passed under the dinghy the drag was tested and a lift of 1 foot noted. Shortly after passing the tender the drag grounded and a least depth of 5¹/₂* feet was found. As this sounding was close to the position of the rock found in the 1855 survey, it was thought that it had been verified. The drag was then set to cover the rock by 3 feet an effective depth of 2³/₄* feet. A strip was then dragged from north to south in the direction of the current and the dinghy again stationed over the approximate position of the rock. The drag was again tested and no lift was found, thereby proving definitely the non-existence of any rocks nearer the top of the water than the drag. The drag was taken to the north and again the area was swept from north to south with an effective depth of 9 feet over the point in question when the drag grounded again and a least depth of 5¹/₂* feet was found about 40 meters away from the first grounding and in almost the exact spot shown on the early survey. The ground wire had wrapped itself around the rock so well that considerable time was spent in freeing it.

** A correction in the tide reducer changed the 5 1/2 to 6 ft. GR.*
*** Tide reducer changed.*
† The 5 foot sdg. falls inshore of the 6 ft. rock on H-462 (1855). The 6 ft. sounding mentioned above falls practically on the 6 on the old survey. G.R.

TIDAL DATA:

Tide reducers were obtained from the standard automatic tide gage maintained at the Presidio of San Francisco and used without applying correction.

LANDMARKS:

Notes on the one landmark located are submitted with the report for the topographic sheet.

GROUNDINGS:

Pos.No. Letter Day	Latitude & Longitude		Effective Drag Depths Ft.	Least Depth Ft.	Depth Cleared Ft.	
	0	'				
4a	37	50.21	9	5 6**	3	* tide reducer changed. BR
	122	28.18				
7a & 8a	37	50.24 ^{22 RWD}	9 ^{10*}	5	3	
	122	28.19 ^{10/182}				
6a	37	50.25	9 ^{10*}	6**	3	** Not plotted. Falls very close to pos 7a (5 ft.)
	122	28.20				

Respectfully submitted,

H. G. Conerly
H. G. Conerly,
Aid,
C. & G. Survey.

Approved and approved:

F. H. Hardy
F. H. Hardy, Chief of Party, C. & G. S.,
Commanding Ship GUIDE.

STATEMENT
to accompany
WIRE DRAG SHEET FIELD NO. 15
1936

The plotting and protracting of buoy positions was done
by Engism H. G. Conerly.

The drag areas were subdivided and inked by Ensign H. G.
Conerly.

The completed smooth sheet has been inspected and is approved.

F. H. Hardy

F. H. Hardy,
Chief of Party, C. & G. S.,
Commanding Ship GUIDE.

LIST OF SIGNALS
to accompany
WIRE DRAG SHEET FIELD NO. 15
1936

TRIANGULATION

Hydrographic Name

Location

HO
CAT

Sausalito Powerhouse Gable, 1916
Alcatraz Lighthouse, 1910.

From Topographic Sheet Field Letter Q

GOT
FAT
ELF
DO
CY
BON
ABLE
STACK

STATISTICS
to accompany
WIRE DRAG SHEET FIELD NO.15
1936

Date 1936	Day Letter	Volume	Statute Miles	Positions	Drag Length Feet	Tender Soundings	Positions
Dec. 17	A	1	0.9	48	1,500	10	8

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 25, 1937.

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in
3 volumes of sounding ^{and wire drag} records for

HYDROGRAPHIC SHEET 3968 Add. Wk.

Locality Yellow Bluff, San Francisco Bay, Calif.

Chief of Party: F. H. Hardy in 1936
Plane of reference is mean lower low water reading
5.6 ft. on tide staff at Presidio
11.5 ft. below B.M. 166

Height of mean high water above plane of reference is 5.1 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. **H.3968** W.D. (Addl. Wk. 1936)

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

Number of positions on sheet	48
	15
Number of positions checked	22
Number of positions revised	0
Number of soundings recorded	2
Number of soundings revised	0
Number of signals erroneously plotted or transferred	0

Date:

Verification by } *b. Pisegari*

Review by

Time: 5 hrs.

Time: ~~2 hrs~~ 5 hrs. $2\frac{5}{7}$ days.

HYDROGRAPHIC SURVEY NO. H-3968 W. D. (Add'l Wk., 1936)

Smooth Sheet (Original Smooth Sheet only)

Boat Sheet Two

Sounding Records 3 Vols. _____

Descriptive Report Yes

Title Sheet Yes

List of Signals In D. R.

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service None
(Circular Nov. 30, 1933)

Remarks _____

HYDROGRAPHY
Total Days One
Last Date Dec. 17, 1936

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT } No. H-3968 W.D. (Add'l
~~XXXXXXXXXX~~ } ~~XXXXXX~~ 1936) { received Mar. 11, 1937
~~XXXXXXXXXX~~ } No. 1 } registered Mar. 23, 1937
 } } verified
 } } reviewed
 } } approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	C.K.Green
----	-----------



REVIEW OF HYDROGRAPHIC SURVEY NO. 3968 Add'l. Work 1936 (W.D.) FIELD NO. 15

Yellow Bluff, San Francisco Bay, California
Surveyed in December 17, 1936, Scale 1:10,000
Instructions dated June 1, 1936 (Letter to Str. GUIDE)

Wire Drag with Hand Lead Soundings.

Dual Control on Shore Signals.

Chief of Party - F. H. Hardy.
Surveyed by - L. P. Raynor.
Protracted by - H. G. Conerly.
Subdivision of wire dragged areas by - H. G. Conerly.
Inked by - H. G. Conerly.
Verified by - G. Risegari.

1. Purpose of Survey.

The purpose of this survey was to investigate a 6 foot rock in the vicinity of Yellow Bluff, which had been located on the survey of 1855 (H-462) but not found on the survey of 1895-96 (H-2254) and which apparently had been struck by yachts rounding the point (See Chart Letter 337 of 1936).

2. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual and S.P. 118 except as follows:

- a. No information relative to the character of the bottom at the groundings were noted in the sounding record. It is assumed from the Descriptive Report, page 2, that the 5 and 6 foot soundings are over rocks and "Rk" have been added to them.
- b. There is some confusion in the Descriptive Report, page 2, regarding which of the two rocks found on the present survey agrees with the rock shown on the early survey. As stated in the Descriptive Report it would appear that the second grounding where the 5 foot rock was found, located the 6 foot rock on the early survey and the first grounding located an additional 6 foot rock further off-shore. Actually, however, the first grounding of the drag located the 6 foot rock on the early survey and the second grounding located an additional 5 foot rock further inshore.

3. Shoreline and Signals.

The shoreline and signals are from the plane table survey T-6517 (1936-37).

4. Results of Survey.

This survey verifies the 6 foot rock shown on H-462 (1855). In addition another rock (not previously located) with a depth of 5 feet over it was located about 40 meters inshore of the 6 foot rock. Both rocks were cleared by an effective depth of 3 feet. Inasmuch as yachts round Yellow Bluff close aboard, (see Chart Letter 337 of 1936) it would have been desirable to have combed the rocks with a deeper drag than 3 feet.

5. Comparison with H-462 (1855).

In addition to the 6 foot rock verified by the present survey, H-462 (1855) also shows a 15 foot sounding and a sunken rock about 35 meters offshore of the 6. The 15 was verified in the sounding records (pos. 20k), but no mention was found of the sunken rock. It is believed the sunken rock symbol was placed on the sheet to indicate that the 15 is a detached spot surrounded by deep water. This is borne out by the depths shown on H-2254 (1895-96).

The present drag work does not adequately cover the 15 foot sounding. It falls at the junction of two drag strips run in opposite directions both of which grounded on rocks to the westward. The 15 was later covered by a drag with an effective depth of 3 feet. The 15 has been carried forward to the present survey and should be retained until such time as its existence is disproved. (See par. 7 this review). It is possible that less water exists here and that the yachts may have struck here rather than further inshore.

6. Comparison with Chart 5535 (New Print date Oct. 21, 1936).

The sunken rock off Yellow Bluff was charted as a result of Chart Letter 337 of 1936 from the Inspector at San Francisco calling attention to a yacht striking an obstruction off the point. The position of the sunken rock was taken from H-462 (1855). (See par. 5, this review).

Previous to the charting of the above rock, a 6 foot sounding from H-462 (1855) was shown on Chart 5581, edition of 1859. But with the application of the 1895-96 survey (H-2254), the 6 was removed and not shown on any subsequent edition.

7. Additional Field Work Recommended.

Whenever work is resumed in this locality the 15 foot sounding from H-462 (1855) should be investigated by dragging, if practicable. (See par. 5, this review). Otherwise an examination by drift soundings should be made.

8. Miscellaneous.

The work was submitted by the field party on a separate smooth sheet. This work was verified in the office and transferred as an insert to H-3968 (1917) and the sheet submitted by the field party registered as a boat sheet.

9. Note to Compiler.

Because of the uncertainty of the least water on the 15 foot sounding brought forward from H-462 (1855) (see par. 5 this review), the sunken rock as at present charted should be retained as a matter of safety.

10. Reviewed by - G. Risegari, May 20, 1937.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, *C. K. Green*
Chief, Section of Field Records.

Fred. R. Peacock
Chief, Section of Field Work.

L. O. Pollard
Chief, Division of Charts.

G. H. Hude
Chief, Division of H. & T.

Applied to drawing of Chart 5535 - Oct. 1, 1937 - J. Walker