4208a
4208b

Diag. Chy. No. 8152 - 1 & 2

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

11—5613

State: S. E. Alaska

DESCRIPTIVE REPORT.

Hyd Sheet No. 4208a 4208b

LOCALITY:

W. Coast Prince of Wales Island.

1921

CHIEF OF PARTY:

T. J. Mahan.

4208a
4208b

Form 537
11—5812

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. ~~5810~~ 4208

State . . . . . ALASKA . . . . . .

General locality . . WEST COAST PRINCE OF WALES ISLAND . . .

Locality . . . OFFSHORE - DALL ISLAND TO NOYES ISLAND . . . .

Chief of party . . . . . THOS. J. MAHER . . . . . .

Surveyed by . . . . . STR. SURVEYOR . . . . . .

Date of survey . . . . APRIL - OCTOBER. 1921 . . . . . .

Scale . . . . . 1 : 120,000 . . . . . .

Soundings in . . . . . FATHOMS . . . . . .

Plane of reference . MEAN LOWER LOW WATER . . . . . .

Protracted by J.A.BOND . . Soundings in pencil by J.A.BOND

Inked by J. D. Torrey . . . Verified by J. D. Torrey . . . . .

Records accompanying sheet (check those forwarded):

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

27 Sounding books, ... Wire-drag books, ... Photographs.

Data from other sources affecting sheet . . . . . .

Supplementary sheet, scale 1 : 60,000

Remarks:

DESCRIPTIVE REPORT

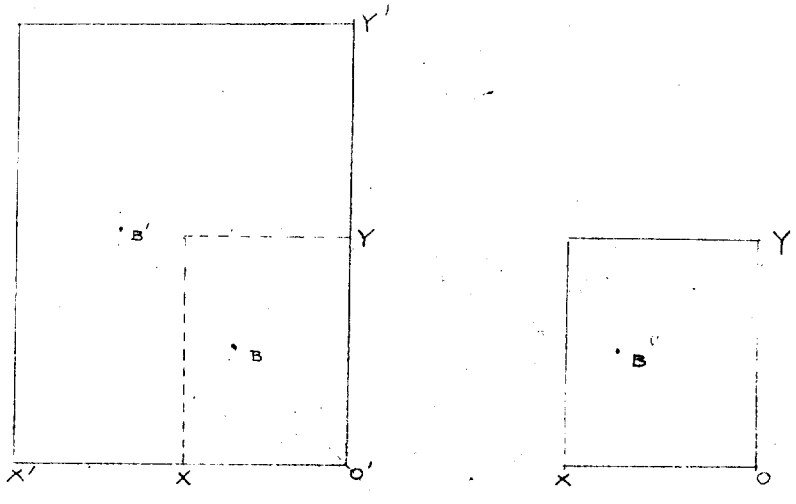
To Accompany Hydrographic Sheet No. 3819 and
Supplementary Sheet

This report is intended only to cover the drafting methods employed on these sheets.

The work on Sheet No. ~~3819~~ 4208-a is a continuation to the northward of the work done by the Steamer LYDONIA in 1920 and has been plotted on a projection, the limits and scale of which are the same as used on the smooth sheet by the LYDONIA.

A supplementary sheet, scale 1:60,000, was used to show the inshore work and the development of an offshore shoal. Two boat sheets were used in the field, but no attempt was made to show in the records upon which sheet the work was plotted. In plotting the positions I have, therefore, checked in red those plotted on the 1:120,000 sheet and those plotted on the 1:60,000 sheet in blue. A few lines were run by the ship into and across the Gulf of Esquibel. These have been plotted on the Gulf of Esquibel sheet and checked in the ship's records in green.

On the supplementary sheet the inshore work and the development of the shoal inclosed in blue lines were plotted directly from signals on this sheet. The larger area contained in green lines on this sheet was enlarged from the smaller area contained in the same colored lines by the following method:



A tracing of a separate day's work is made in ink on transparent celluloid (this being more durable than paper or cloth) from the small area and the meridian OY and parallel OX indicated. The tracing is then placed on the enlargement so that the point O of the tracing falls on point O' of the enlargement, the meridian OX falls on the line O'X' of the enlargement and OY falls along O'Y'. The two figures are, therefore, similar and any point on the tracing may be transferred di-

rectly to the enlargement by laying a straight edge so it passes thru B and O' and upon the continuation of the line BO' lay off the distance B B' equal to BO'. The point B' is, therefore, in the same relation to the meridian and parallel as is B. The scale of the tracing being 1:60,000 and B'O' being equal to 2 BO', the scale of the enlargement will be 1:30,000.

The above operation may be much simplified by placing a pin at the point O'. Place a small celluloid triangle against the pin and pivot it around until one edge passes thru the desired point "B". Set the distance BO' on a pair of dividers. Pivot the dividers around B and lay off the distance B B' on the edge of the triangle. Great speed may be obtained by this method and the result is as accurate as can be obtained by any other mechanical means. Each day's work can best be traced and transferred separately, the same piece of celluloid being used each time, as the previous day's work can easily be erased. In a few cases the transferred point falls under the tracing. This may be avoided by placing the tracing so X and X' coincide and proceeding as before, laying off each point on a line thru X' instead of O'.

Several days' work is shown on the enlargement which is not on the originally plotted area. This work was first plotted on tracing paper placed over this area. The paper was then placed on the enlargement as described above and the points transferred.

All positions contained in the records have been plotted. All soundings on the 1:20,000 sheet have been penciled. Soundings on the 1:60,000 have been penciled up to and including B R Day - Vol. 21. All soundings on the shoal development and enlargement have been pencilled.

The correction for the tube soundings was arrived at by taking a mean of the differences between the up and down and tube values for the entire day, if the tube sounding was continuous. If tubes were used only for a short time at different parts of the day a correction for each period of sounding was obtained separately by the above method. In some cases only one comparative sounding was taken during the day. In this case it was necessary to use the difference between the tube and wire reading of the sounding as the correction to be applied to the entire day's work.

John A. Bond.
Jr. H. Eng.

June 1, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
27 volumes of sounding records for

HYDROGRAPHIC SHEET 4208

Locality: West Coast of Prince of Wales Island, S. E. Alaska

Chief of Party: T. J. Maher in 1921
Plane of reference is Mean lower low water, reading
3.4 ft. on tide staff at Steamboat Bay, Noyes Island

For reduction of soundings,
Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G Rude

Chief, Division of Tides and Currents.

June 8, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tidal reductions are approved ~~in~~ for "A" Day in Volumes of sounding records for

HYDROGRAPHIC SHEET 4208

Locality: West Coast of Dall, Baker and Noyes Islands, S. E. Alaska

Chief of Party: T. J. Maher in 1921
Plane of reference is mean lower low water, reading
*6.2 ft. on tide staff at Ketchikan, Alaska
*Allowance made for difference in tide at place of soundings

For reduction of soundings,
Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G V Rude

Chief, Division of Tides and Currents.

ADDRESS THE DIRECTOR
U.S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-DRM

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

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4208a.

Surveyed in 1921.

Instructions dated Feb. 12, 1922.

1. The records comform to the requirements of the General Instructions except in the following respects:

   The kind of sounding machine and sounding tubes are frequently not stated.
   The manner of recording courses in several of the volumes is a departure from standard practice. The course should be recorded at the time it becomes effective instead of at a later time as was frequently done.
   When the wire is not vertical, the angle of inclination should be noted.
   The records of the dead reckoning lines are deficient. For most of the dead reckoning positions the records state "Plot on course and distance" - but in no case is the distance given.

2. The plan and character of development fulfill the requirements of the General Instructions.

3. The extent of development and the location of the survey satisfy the specific instructions but the plan of the work departs from the instructions by the office in that the sounding lines are 1½ to 5 times closer than was intended. As a result the area covered is less than one-half of what might have been accomplished with the same number of soundings and the same mileage of sounding lines if the instructions had been adhered to.

4. The sounding line crossings are adequate and the information sufficient for drawing the usual depth curves.

Chief of Party: T. J. Maher.

Surveyed by party of Str. Surveyor.

Protracted and soundings plotted by J. A. Bond.

Verified and inked by J. D. Torrey.

5. The field plotting was completed to the extent prescribed in the General Instructions and none of it had to be done over again by the office draftsman.

6. The junctions with adjacent sheets are satisfactory.

7. No further surveying is required within the limits of the sheet, but attention is called to the bank at 55° 43'-134° 09' which should be developed when further work is done in this locality.

8. The character of the surveying and field drafting are excellent.

9. Reviewed by E. P. Ellis, December, 1922.

Form 537
11—5812

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. ~~3819 (Supplementary)~~ 4208b

State . . . . . ALASKA . . . . . .

General locality . WEST COAST PRINCE OF WALES ISLAND . . . .

Locality . . . . . OFF BAKER AND NOYES ISLANDS . . . . .

Chief of party . . . . . THOS. J. MAHER . . . . . .

Surveyed by . . . . . STR. SURVEYOR . . . . . .

Date of survey . . . . APRIL & OCTOBER . . . . . .

Scale . . . . . 1 : 60,000 . . . . . .

Soundings in . . . . . FATHOMS . . . . . .

Plane of reference . . MEAN LOWER LOW WATER . . . . . .

Protracted by J.A.BOND . . Soundings in pencil by J.A.BOND

Inked by . . . . . Verified by . . . . . .

Records accompanying sheet (check those forwarded):

Des. report, ------ Tide books, ------ Marigrams, ------ Boat sheets,

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

Data from other sources affecting sheet . . . . . .

Remarks:

Memorandum regarding tripping of submarine sentry on Hydrographic Sheet 4208[b]:

Position	Sounding (Reduced-fms.)	Effec.depths of sentry (fms.)	Length of * Towline(fms.)	Notes in sounding record
43/ TT	65	20	43	"Sentry tripped & carried away. Lost 5 fms.wire." Ves.Stopped. Healy in charge.
57/ RR	52	20	43	"Sentry tripped." Ves.apparently under way. Maher in charge.
41/ BX	57	14	27	"Sentry tripped. Sentry tripped twice in same vicinity. Heavy swell. If dangerous breakers would show." Maher in chg. Ves. stopped.
No pos'n No. Vol. 23 p. 29	None	20	43	"Sentry tripped." Apparently under way. Sobieralski in charge.
112/ NN	22	19	43	"Sentry tripped." Ves. stopped. Sobieralski in chg.
68/ CH	53	19	43	"Sentry tripped."Record not clear as to whether ves.was under way. Maher in charge.
59/ CF	52	24	63	"Sentry tripped." Ves. under way.Maher in chg.
91/ TT	28	19	43	"Sentry tripped." Ves. stopped. Maher in chg.

* Lengths of towline furnished by the office.

Original forwarded to H.T.J. on Aug. 11, 22

EGE

June 1, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
27 volumes of sounding records for

HYDROGRAPHIC SHEET 4208

Locality: West Coast of Prince of Wales Island, S. E. Alaska

Chief of Party: T. J. Maher in 1921
Plane of reference is Mean lower low water, reading
3.4 ft. on tide staff at Steamboat Bay, Noyes Island

For reduction of soundings,
Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G Rude

Chief, Division of Tides and Currents.

June 8, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tidal reductions are approved ~~in~~ for "A" Day in Volumes of sounding records for

HYDROGRAPHIC SHEET 4208

Locality: West Coast of Dall, Baker and Noyes Islands, S. E. Alaska

Chief of Party: T. J. Maher in 1921
Plane of reference is mean lower low water, reading
*6.2 ft. on tide staff at Ketchikan, Alaska
*Allowance made for difference in tide at place of soundings

For reduction of soundings,
Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
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8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

G V Rude

Chief, Division of Tides and Currents.

Verification Report of Hyd. 4208-6

Accompanying this report is a list of positions at which the sentry tripped while being towed on this work. At none of these places was further investigation made as to the cause of tripping. In every instance the nearest adjacent sounding is deeper than the depth at which the sentry was set.

There are several soundings in question. These soundings are most likely due to tide readings whose corrections are unknown. At 32 CD, 2 miles N.W. of △ Top 69 fms. is questioned; 10 AC, 4 mi. W. of △ Top 27 fms is surrounded by 60; 37 CJ, 2 mi. N.W. of △ Supple 56 fms is questioned; 37 fms. 2 mi W. of △ Pedro is in doubt; 43 fms. 2 AC, 9 mi. W. of △ Top full on 60 fms. 116 CA. Throughout the eastern portion of this work there is a great deal of irregularity in the bottom a good portion of which can possibly be due to the use of the tube without adequate checking by sounding casts.

A few errors were found in the soundings, only about one in five of the positions were mis-

ferred; and in the closly developed sections the positions were not connected by pencil lines. These two factors made verification most slow and difficult.

The lines were not run in a good & systematic order.

BN and BT days which were plotted on the enlargement of the sheet & the S.W. were found very much in error. These were all replotted and again enlarged by the method as described in the descriptive report.

From BS day & CP day inclusive the writer did the plotting of soundings and Mr. R.L. Johnston did the verification of same.

Respectfully submitted,

Alois Bar

Draftsman.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-DRM

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

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4208 B.

Surveyed in 1921.

Instructions dated Feb. 12, 1921.

Chief of Party T. J. Maher,

Surveyed by party of Str. Surveyor.

Protracted by J. A. Bond

Soundings plotted by J. A. Bond and A. Baer.

Inked by A. Baer.

Verified by A. Baer and R. L. Johnston.

1. The sounding records are subject to the same criticism that is made in the report on H. 4208[a]. The sounding volumes for H.4208[a] and 4208[b] are not divided into separate sets for each sheet. In addition 58 positions for H. 4209 (Gulf of Esquibel) are also included with H. 4208[a] and 4208[b]. This intermingling of records causes difficulties and is likely to result in omissions.

2. The plan and character of development fulfill the requirements of the General Instructions.

3. The plan and extent of development satisfy the specific instructions, except that the spacing of the sounding lines is less than one-half the distance contemplated in the instructions.

4. The sounding line crossings are, in general, adequate, and the information is sufficient for drawing the usual depth curves.

5. The field plotting was completed to the extent prescribed in General Instructions but it contained some serious defects. Δ^n Step, which was plotted and checked in the field, was found after the sheet was inked, to be 450 meters out of place. 220 positions depending on this signal were therefore incorrectly plotted. All of these erroneous positions could not be checked owing to the field draftsman having omitted most of the position

numbers and day letters and connecting pencil lines and consequent impossibility of identification of the soundings. All the soundings of 20 fathoms or less were replotted but some of the deeper soundings are subject to errors in position of 100 to 200 meters. The only alternative to this procedure would have been the replotting of the entire sheet.

6. The method of using sounding tubes was not in accordance with General Instructions nor standard Coast Survey practice. The correction factors obtained in the manner described in the last paragraph of the descriptive report will not give good results.

As directed in General Instructions egery fifth sounding should have been an up and down sounding with the lead. In all cases the numbers of the tubes should have been noted and a separate plotting made for each tube on section paper. of all comparative soundings. By drawing a curve through the wire soundings and one through the tube soundings and noting the errors of the tube readings correction factors for varying depths could have been taken out. A flat correction, based on one comparative reading for several tubes and all depths for the entire day's work could not give satisfactory results.

7. The junctions with the adjacent work are satisfactory.

8. At position 43 TT (9 miles west of C. Addington) the sentry struck when set at 20 fathoms, and also at 41 to 44 BX (3 miles northwest of San Fernando I.) the sentry struck when set at 15 fathoms. These two spots should be investigated. No further surveying is required elsewhere on the area covered by this sheet.

9. This survey revealed an unusual bottom formation. The shoalest water on the sheet is the 14-fathom shoal 12½ miles west of C. Addington. 1½ miles northeast of this shoal the deepest water on survey was found. It is entirely surrounded by comparatively shoal water and, as Capt. Maher has suggested, it is probably the crater of an extinct volcano. Numerous soundings were found on both the shoal and the deep, hence they are undoubtedly correctly shown.

10. The character and scope of the surveying are good and the field drafting fair.

11. Reviewed by E. P.Ellis, January, 1923.