

5243

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Form 504
Ed. June, 1923

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

State: S.E. Alaska

DESCRIPTIVE REPORT

<i>Topographic</i> <i>Hydrographic</i>	Sheet No. <u>5</u> 5243
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LOCALITY

~~Kennedy Bay~~, Chatham Straits,
S. E. Alaska.
Pt., Turbot to Cosmos Cove

19 32.

CHIEF OF PARTY

G. C. Jones.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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REG. NO. 5243

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. 5

REGISTER NO. 5243

State ~~xxx~~ Alaska

General locality Chatham Strait

Locality Pt. Turbot to Cosmos Cove
1:5,000 (Insert)

Scale 1:10,000 Date of survey September, 1932.

Vessel U.S.C. & G.S.S. EXPLORER

Chief of Party G. C. Jones.

Surveyed by G. C. Jones, and W. Weidlich

Protracted by W. Weidlich

Soundings penciled by W. Weidlich

Soundings in fathoms feet

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by _____

Inked by J.T. Walker

Verified by J.T. Walker

Instructions dated March 24,, 1932.

Remarks: _____

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 5,

KASNYKU BAY, CHATHAM STRAITS,

S. E. ALASKA,

1932.

G. C. JONES, CHIEF OF PARTY, C. & G. SURVEY.

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 5,
KASNKYU BAY, CHATHAM STRAITS, S. E. ALASKA.

AUTHORITY:

The hydrography on this sheet was executed under instructions of the Director, dated March 24, 1932.

SCALE AND LIMITS:

The general survey was done on a 1:10,000 scale, having an insert of Kasnyku Bay proper on a 1:5,000 scale, ~~2500~~.

The survey extends from Point Turbot on the South in Latitude $57^{\circ}09'$, Longitude $134^{\circ}47'$, to Cosmos Cove on the North, in Latitude $57^{\circ}14'$, Longitude $134^{\circ}50'$.

CONTROL:

Triangulation and topography, executed slightly in advance of this hydrography, furnished the necessary control.

METHODS AND EQUIPMENT:

Standard survey methods were employed.

With the exception of a few lines, which were run parallel to the shoreline in the deeper water using the Ship EXPLORER, all hydrography was accomplished using Launch No. 69. All soundings were obtained by wire or leadline.

During minus and low tides the entire area was searched for rocks and other obstructions. A skiff with outboard motor was used for this work.

SPACING:

Sounding lines run by the ship are spaced about six hundred meters apart and are run parallel to the coastline.

Sounding lines run by the launch are spaced about 100 meters apart on the 1:10,000 scale; and spaced about 50 meters apart on the 1:5,000 scale. In general, on the launch work, the lines are run in an Easterly and Westerly direction.

PLOTTING ON SMOOTH SHEET:

In general all soundings obtained are plotted on the smooth sheet in the proper position. However, soundings taken along the faces of the dock are too close together to show clearly in their proper position on the 1:5,000 scale. These soundings are listed on the sheet in the immediate vicinity of the dock. *replotted on scale 1:2,500*

TIDES:

A "Rude", portable automatic tide gauge was installed at the Northwest end of the dock in Kasnyku Bay. This gauge was kept in operation throughout the period of this survey. All reducers were obtained from the records of this gauge. ✓

CURRENTS:

A strong Northerly set was experienced along the shore in the area between Kasnyku Bay and Cosmos Cove. The velocity was estimated to be from one to two knots. In this locality the current made it very difficult to run straight sounding lines. ✓

KELP:

With the exception of the shoal numbered thirteen under the heading of "Dangers and Obstructions", all foul areas are marked by kelp. Kelp is especially thick along the shore between Kasnyku Bay and Cosmos Cove. In some places in this area it extends from two to four hundred meters offshore. No attempt was made to sound through all of these patches as it would have been impossible to handle the launch without undue loss of time.

BOTTOM:

The bottom characteristic is generally rocky in shoal water and soft and muddy in deep water. South of signal "HOWL" it is sandy with occasional boulders.

DIFFERENCE IN DEPTH, BOW AND STERN:

On position No. ^{9k} 8, page 43, ⁴²³ forward 9-1/2 fathoms, aft 15.4 fathoms.

SAILING DIRECTIONS:

The sailing directions as given in the "Alaska Coast Pilot" Part I, on pages 344 and 345, are adequate. No additional information could be obtained which would improve them.

The narrow passages between the small islets in Kasnyku Bay, may be used by small craft, but the pilot should have local knowledge. By using these passages very little time may be saved.

The channel South of the group of islands marking the South side of the main entrance to Kasnyku Bay, may be used with safety by steering mid-channel courses. This channel was used by the Str. EXPLORER, at low tide.

AREA OF INSUFFICIENT SOUNDING:

Between ^aBarnof Island and triangulation station "ROUND" and near the shore between stations "NO" and "TOL". - Tob? (Lot 57-10) ✓

ANCHORAGES:

An excellent small boat anchorage may be had in "Ell Cove", which is a small bay located along the South shore of Kasnyku Bay. This anchorage is land locked and has an average depth of 5-1/2 to 7-1/2 fathoms, muddy bottom. ✓

WEATHER:

Many days of inclement weather prevented the active execution of field work. One storm accompanied by heavy gales and seas carried away many signals, which had to be rebuilt. In order that the work ~~that~~ ~~the work~~ might be expedited Saturday afternoons, Sundays and Holidays were not observed. ✓

COMMENTS ON EQUIPMENT AND COMPLETENESS OF WORK:

Launc No. 69, which was the only craft available for this work, is not suitable for hydrography in any weather. It may be used, during the best of weather in smooth protected waters, for short periods, to accomplish a little supplemental work. However, it is absolutely too small, noisy, and tender to be used for hydrography unless absolutely necessary.

In some cases additional development work would be desirable on this sheet. This is especially true with regard to the channel South and West of the islands at the entrance to Kasnyku Bay. However, in view of the fact that the entire area was examined at low or minus tides and that all foul areas are marked by kelp, it is believed that the survey may be considered as complete and that all channels are free of dangers and other obstructions. ✓

If additional work had been done it would have been necessary for the ship to run 230 miles for additional fuel and supplies.

DANGERS AND OBSTRUCTIONS:

With the exception of two rocks, which are marked by beacons, nearly all obstructions are near the shores, and those in deeper water are no menace to navigation.

1. Beacon No. 2, marks the extreme end of a foul area studded with numerous rocks which bare from 3 to 5 feet at M.L.L.W., This area is marked by very thick kelp. (Positions 1-2-3-4 f.) 1:5,000 scale. ✓

2. Beacon No. 1, marks a rock which bares about 5 feet at M.L.L.W. This area is marked by some kelp. 1:5,000 scale. ✓

3. A rock which bares ~~X~~ 1/2 feet at M.L.L.W., lies 165 meters 62° from station "TWO". This rock covers an area of about 30 square meters and is marked by thick kelp. 1:5,000 scale. (Position 1 a - blue.) ✓

4. The passage between the South shore and the island on which station "TEN" is located is more or less foul. Kelp is very thick. A pinnacle rock which bares about 1/2 foot lies about 20 meters 355° from station "FEB", and another rock with about 2 feet over it, about 50 meters 0° from station "FEB". 1:5,000 scale. ✓

5. A rock which bares about 3 feet at M.L.L.W., lies about 75 meters 20° from triangulation station "LITE". This rock is marked by thick kelp. (Positions 16-17 d, and 7 a - blue.) ✓

6. Foul area extends for some distance from triangulation station "KAS". This area is well developed. A rock which bares about 2 feet at M.L.L.W., marks the extreme end and is located about 125 meters 136° from triangulation station "KAS". The whole area is marked by very thick kelp. Positions 15-142-143 d, and 6 a - blue.) ✓

7. A rock which bares about 5 feet at M.L.L.W., lies about 55 meters 73° from station "AL". It marks the northern limits of a sandy area. No kelp. (Position 11 f.) 1:5,000 scale. ✓

8. A thick kelp patch extends for about 135 meters in a southerly direction from station "MAN". Bottom is very irregular. The shoalest soundings were obtained at the western edge of the kelp patch. A rock with a depth of 2 feet over it at M.L.L.W., lies about 102 meters 220° from station "MAN". (Position 11 d.) 1:5,000 scale. ✓

9. A rock with a least depth found of 1-1/6 fathoms at M.L.L.W., lies about 122 meters 77° from station "FEB". This rock is marked by kelp. (Position 52 j.) 1:10,000 scale. ✓

10. A kelp patch of some extent, with a least depth found of 1-1/2 fathoms at M.L.L.W., lies about 280 meters 97° from station "FEB". Rocky bottom throughout. Bottom is visible. (Position 54 j.) This area is well developed. 1:10,000 scale. ✓

11. A rock which bares about 1/2 foot at M.L.L.W., lies about 140 meters 55° from station "FEB". The area inside of the rock is foul and studded with numerous rocks. Position 14 j. 1:10,000. ✓

12. A rock which bares about 5 feet at M.L.L.W., lies about 125 meters 170° from station "ROK", and is marked by thick kelp. A rock which bares about 11 feet at M.L.L.W., lies about 32 meters S.S.W. of Position No. 5 f. Thick kelp. ✓

The area immediately West of these rocks is covered by thick kelp and no attempt was made to penetrate these kelp patches. 1:10,000 scale. ✓

13. A shoal of some extent with a least depth found of 5-5/6 fathoms at M.L.L.W., lies about 286 meters 284° from station "ILL". This area is well developed, no indication of any kelp. 1:10,000 scale. *Round 9.* ✓

14. The area between the island and the rock on which station "ROW", is located is foul and marked by thick kelp. ✓

15. A rock which bares about 2 feet at M.L.L.W., marks the southern limit of foul area south of station "OUT". This area is marked by thick kelp. The rock is located about 100 meters 198° from station "OUT". Position 3 a - blue. ✓

16. A rock ~~awa~~ which marks the extreme limits of foul area North of station "OUT", lies about 100 meters 55° from station "OUT". Marked by thick kelp. (Position 4 a - blue.) ✓

17. A shoal with a least depth found of 9-1/2 fathoms at M.L.L.W., lies about 553 meters 143¹⁰/₂° from station "NORTH". This area is well developed. Rocky bottom. No indication of any kelp. (Position 9 h.) ✓

18. Position 5 a, blue, marks the extreme end of a ledge about 120 meters 119° from station "CUSH". The position is at the edge of thick kelp and the depth is 1-1/6 fathoms at M.L.L.W. ✓

19. A kelp patch with a least depth found of 3-2/6 fathoms at M.L.L.W., lies about 310 meters 83° from station "TURS". This area is well developed. Rocky bottom. (Position 22 & 27 h.) ✓

20. A 5 fathom spot was located about 360 meters 91° from station "TURS". Bottom is very irregular and marked by thick kelp. ✓
(Position 35 h.)

21. Position 207 h, marks the extreme end of foul area with a depth of 3 feet at M.L.L.W., about 120 meters 140° from station "OLE". This area is marked by thick kelp. Lat 57-12 ✓

Respectfully submitted,



W. Weidlich,
Mate, C. & G. Survey.

APPROVED AND FORWARDED:



G. C. JONES,
Chief of Party, C. & G. Survey,
Comdg. U.S.C. & G.S.S. EXPLORER.

STATISTICS

HYDROGRAPHIC SHEET NO. 5

KASNYKU BAY - CHATHAM STRAIT

DATE	VOL.	DAY	BOAT	STAT. MILES	POS	SOUNDINGS HAND-MACH	AREA	MILES TO & FROM WORK
Sept. 7	1	a	#69	9.0	87	27	87	3.2
8	1	b	"	2.7	35	3	65	0.5
9	1	c	"	4.0	73	74	71	0.8
10	1	d	"	10.0	171	326	124	2.1
11	1&2	e	"	7.4	123	284	41	7.2
13	2	f	"	1.0	21	66	---	0.3
14	2	g	"	15.2	175	138	231	6.2
15	2	h	"	17.2	213	262	218	5.0
16	3	j	"	16.7	234	382	174	4.4
Totals:				83.2	1132	1562	1011	29.7
Sept. 6	1	A	EXPLORER	17.5	65	----	65	7.5
16	1	B	"	1.6	13	----	13	0.0
Totals:				19.1	78	----	78	7.5

1132
 78

 1210

1562
 1011
 78

 2651

Section of Field Records

Report on H 5243
Chief of Party G.C. Jones
Protracted by W. Weidlich
Verified & Inked by
J.F. Walker

Surveyed in Sept. 1932
Surveyed by G.C. Jones
and W. Weidlich
Soundings plotted by
W. Weidlich.

The sounding records were neatly kept and were complete in most details except in Vol. 1 where some note should have been added to show the position of the sounding machine with relation to the point on the ship from which the fix was taken.

Few errors were found in the protracting. The soundings were plotted satisfactorily. Capital A & B loys were run with the ship Explorer with the sounding machine aft. It is assumed that the sextant positions were taken from the bridge. The soundings were plotted (by the field party in pencil on the smooth sheet) about 45 m. from the fix and it is assumed that is the distance from the sextants to the sounding machine. The soundings were therefore inked in 45 m. from the position in a direction depending on the ship's heading. In the records under, "Heading by compass," are a series of figures and on the extreme right of the same page is another column of figures which also

seem to be compass courses. More of the soundings seemed to be plotted according to the right hand compass course and so these courses were used throughout by the writer.

a 17 fath. sounding ~~plots~~ plots between a 23 and a 25 Lat. $57^{\circ}-09\frac{3}{4}$ Long $134^{\circ}-47\frac{3}{4}$. It should probably be rejected as the sounding machine broke down at the next sounding.

Relative bottom irregular bottom 88 point a sounding Pp 6

The sheet when received did not conform with General Instructions as follows:

1. Geographic names were not shown in pencil.
2. Reefs and low water line were not shown in pencil.
3. The position of a triangulation station was not shown on the sheet.
4. The Topo signals were not checked.

The stamp in the lower right hand corner indicated that the topo signals had not been checked. a tracing was therefore made and 43 signals were found to be an average of 9 meters off, ranging from 4 to 42 meters. The high water line was also found to be off a corresponding distance. all but one signal was off less than 13 meters and it was found this error made but little difference in the plotting of the boat positions. as the shoreline and signals bore the same

relationship to each other it was decided not to change either except the one signal (OT:1) which was off 42 meters. The reefs, low water line, and other features not transferred by the field party were added by the writer and adjusted to the erroneously plotted signals and shoreline instead of being correctly plotted. The cause of the faulty transfer by the field was due to a lack of adjustment when tracing the topo sheet which has an average shrinkage of 9 m. per 1000 in a north and south direction.

There were no overlapping contemporary sheets. An overlap between the 10 000 and 5 000 scale sections was made by the writer.

The soundings around the wharf at Hidden Falls were replotted by the writer on a scale of 1:2500.

The area between the two islands (Lat $57^{\circ}12'50''$ Long. $134^{\circ}51'20''$) needs development as only one line was run through and it was close to the lower island.

Respectfully submitted
J. Walker

SECTION OF FIELD RECORDS

Review of Hydrographic Sheet No. 5243
Pt. Turbot to Cosmos Cove, Chatham Strait, Alaska.
Surveyed September 1952
Instructions dated March 24, 1952 (Explorer)

Chief of Party - G. O. Jones.
Surveyed by - G. O. Jones, W. Weidlich.
Protracted and soundings plotted by W. Weidlich.
Verified and inked by - J. T. Walker.

1. The records generally conform to the requirements of the Hydrographic Manual. The relative position from which the fix was taken and the location of the sounding machine on the ship is not clear. More descriptive notes are desirable in a survey of this scale and character.
2. The plan and extent of development satisfy the specific instructions.
3. Soundings are consistent. There are no cross lines. Steep slopes and irregular bottom are characteristic close to shore. The boatsheet closes the channel in lat. $57^{\circ}12.'85$ long. $134^{\circ}51.'4$ with a 3 fathom curve at the western end. At the eastern end the sounding line begins in 8 fathoms "at edge of kelp". It is therefor assumed that the kelp extends between the two islands and the area is foul but the surveyor should have made this clear by a proper note.
4. Depth curves can be drawn satisfactorily over the greater part of the sheet. Broken curves were used where there is uncertainty due to the nature of the bottom or to lack of sufficient development.
5. Junctions. There are no contemporary surveys in this vicinity. Junction was made with the plans on Chart 8243 as directed in the specific instructions.
6. Comparisons. This is the first large scale survey of this section. Sheet H. 2233 (1895 scale $1/80,000$) is in general agreement with this survey but shows no inshore details.
7. Field plotting of hydrography was good. The smooth sheet lacked penciled outline of reefs and low water line, geographic names and reference triangulation station. Apparently topo. signals were not checked before plotting of hydrography (see verifier's report). The deficiencies were remedied to some extent from the Topo. sheet and from the boat sheet.
8. Recommendation. This sheet (H. 5243) should supersede all previous information for charting the area covered by it.

Additional surveys are desirable to determine whether the area mentioned in par. 3 is foul or clear; to develop the areas south of the rocks in lat. $57^{\circ}12'45''$ long. $134^{\circ}51.'36''$, and in lat. $57^{\circ}12.'6$ long. $134^{\circ}51.'1$; west of Round I.; dragging on $9\frac{1}{2}$ fathom shoal southeast of North Pt.; and inshore development from $57^{\circ}10.'1$ to $57^{\circ}11.'2$ where no soundings were taken.

H. 5243.

9. Reviewed by R. J. Christman, June 23, 1933.

Inspected: E. P. Ellis.

Inspection Notes. The field drafting, which was done by W. Weidlich, was defective in the following respects:


The latitude and longitude of a triangulation station were not given on the sheet.

Reefs and low water line were not transferred from the topographic sheet.

All awash rocks on the sheet were referred to lower low water instead of mean lower low water.

The transfer of topographic signals from the topographic ~~survey~~ was not checked. The office checking showed 43 signals had an average error of 9 meters, one of them being 42 meters out of position. Several sheets prepared in former years by Mr. Weidlich had the same defect. It is evidently due to his consistent failure to adjust signals and shoreline to the nearest intersections when making the transfer from the topographic sheets. The checking called for in paragraph 24 of the manual should always be accomplished. This is particularly necessary in Mr. Weidlich's work.

Examined and approved:


L. O. Colbert,
Chief, Field Records Section.


J. B. Borden
Chief, Field Work Section.


W. H. Pugh
Chief, Chart Division


G. H. Hulse
Chief, H. & T. Division.

200

April 14, 1933.

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 5243

Locality Pt. Turbot to Cosmos Cove, Chatham Strait, Alaska

Chief of Party: G. C. Jones in 1932

Plane of reference is mean lower low water, reading

3.8 ft. on tide staff at Kasnyku Bay

17.1 ft. below B. M. 1

Height of mean higher high water above plane of reference is 14.1 feet.

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 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.

Hammer
Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *5243*

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

Number of positions on sheet	<i>1210</i>
Number of positions checked	<i>213</i>
Number of positions revised	<i>8</i>
Number of soundings recorded	<i>2651</i>
Number of soundings revised	<i>19</i>
Number of signals erroneously plotted or transferred	<i>1</i>

Date: *June 19, 1933*

Cartographer: *J. Walker*