

5427

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

State: ALASKA

DESCRIPTIVE REPORT

Topographic }
 Hydrographic } Sheet No. M-2333 5427

LOCALITY

PRINCE WILLIAM SOUND

MONTAGUE STRAIT

GREEN ISLAND TO MONTAGUE ISLAND

19 33

CHIEF OF PARTY

A. M. SOBIERALSKI, H. & G. E.

5427

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5427

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. M-2333

REGISTER NO. **5427**

State ALASKA

General locality PRINCE WILLIAM SOUND

Locality MONTAGUE STRAIT, GREEN ISLAND TO MONTAGUE ISLAND *change*

Scale 1:20,000 Date of survey JUNE 26 - OCT. 13, 1933 *approved*

Vessel Ship SURVEYOR; Launches WILDCAT and #4

Chief of Party A. M. SOBIERALSKI

Surveyed by R. R. MOORE, R. C. ROWSE, F. B. QUINN, V. M. GIBBENS.

Protracted by H. F. GARBER

Soundings penciled by H. F. GARBER

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by -

Inked by J. G. Ladd, V. D. BEHN

Verified by J. G. Ladd, V. D. BEHN

Instructions dated APRIL 15, 19 33

Remarks: Three boat sheets

Applied to CM 8515 - Nov. 1934 - H. S. Pramble

DESCRIPTIVE REPORT

to accompany

SHEET M-2333 (FIELD NUMBER)

MONTAGUE STRAIT, PRINCE WILLIAM SOUND, ALASKA

PROJECT HT-141, 1933

DATE OF INSTRUCTIONS: April 15, 1933.

LIMITS: Joins sheet M-2233 at the north end of Green Island; sheet M-2433 south of Little Green Island; sheets 3353 (office) M-2833 south of Green Island and west of Little Green Island; overlaps sheet 2741 (1905) south of Little Green Island; and joins the shoreline of Montague Island and Green Island. ✓

SURVEY METHODS: Regular methods were used with the ship SURVEYOR using a fathometer and the launches WILDCAT and #4 using wire-machine and handlead. Control signals were obtained from the 1905 and 1933 triangulation and topographic sheets MA-33 and MB-33. A close system of sounding lines was run, with additional lines and spot soundings where dangers were indicated, particularly in the open water stretches. ✓
T 4836
T 4837

DISCREPANCIES: No discrepancies were noted. Good junctions were obtained. ✓

DANGERS: Three very important dangers are:

(1) (Peril Rock), latitude 60-11.7'N, longitude 147-27.7'W, which bares 8 feet at M L L W and covers at high water, and is not marked by kelp. It lies nearly in mid-channel $1\frac{3}{4}$ miles east of Little Green Island. ✓

(2) A kelp-marked reef extending 1 mile south-westward from Little Green Island, and terminating in a 1 foot rock at latitude 60-11.2'N, Longitude 147-32.8'W. ✓

(3) Two kelp-marked rocks, latitude 60-17.0'N, longitude 147-15.4'W, which bare 5 feet and 3 feet at M L L W and covers at high water. It lies $\frac{1}{2}$ mile southwest of Δ Stork, and is surrounded by shoal water. ✓

Other dangers are the following:

A kelp-marked shoal $\frac{1}{2}$ mile north of the entrance island at Port Chalmers, with a rock baring 4 feet at M L L W at latitude 60-15.1'N, longitude, 147-15.8'W. ✓

A kelp-marked rock baring 3 feet at M L L W at latitude 60-14.7'N, longitude 147-14.8'W, Port Chalmers. ✓

A rock in Port Chalmers, latitude 60-14.7'N, longitude 147-13.0'W, baring 2 feet at M L L W. ✓

The area between Gilmour Point and Stork, from the shoreline westward to longitude 147-16.0'W, has numerous shoal spots not marked by kelp, and should only be used with caution by small boats. ✓

The area from $\frac{1}{2}$ mile eastward of (Channel Island) to the nearby point on Montague Island has a very irregular bottom with spots of less than 6 fathoms. There are several large kelp fields with depths of 2 - 3 fathoms southwest of this point on *Montague I.* ✓

CHANNELS: Vessels using the channel between Green and Montague Islands should pass $\frac{1}{3}$ mile southeast of (Channel Island) where 20 fathoms can be carried. ✓

ANCHORAGES: Two anchorages in Port Chalmers are recommended. Small fishing boats can find excellent all-weather protection just outside the lagoon at the head of the northern arm. There is an excellent holding bottom of mud with 6 to 10 fathoms of water. To enter, pass north of the entrance island with (Channel Island) and Horn Mountain on range astern until near Gilmour Point; then keep about 400 yards south of the shoreline of Gilmour Point being careful to avoid the reef, latitude 60-15.1'N, longitude 147-12.6'W, which extends 200 yards offshore $\frac{2}{3}$ mile in from the point. This reef covers at extreme high tides. ✓

The other location, just inside the entrance of the southern arm, was used by the ship SURVEYOR on two occasions. To enter, pass midway between the entrance island and the tree-covered island south of it; swing southward in mid-channel and anchor in 14 - 15 fathoms, mud bottom, about 500 yards east of the southerly entrance island, latitude 60-13.9'N, longitude 147-16.0'W. ✓

COMPARISON WITH PREVIOUS SURVEYS:

The junctions with previous surveys at the southwest part of the sheet were satisfactory, although there were large differences between some close soundings due to the irregular bottom contour. ✓

REVISIONS

GEOGRAPHIC NAMES: Well-established names: Green Island, Montague Island, Port Chalmers, Wilby Island, Gilmour Point. ✓

Names assigned by field officers: Little Green Island, name used locally, but not appearing on chart. ✓

Peril Rock; name suggested because of dangerous mid-channel locations. ✓

Channel Island; name suggested because of proximity to the channel between Green and Montague Island. ✓

LANDMARKS: Written in connection with topographic sheets MA-33 and MB-33. ✓

Respectfully submitted,

Francis B. Quinn

Francis B. Quinn,
Jr. H. & G. E.

Approved and Forwarded,

A. M. Sobieralski

A. M. Sobieralski,
Chief of Party,
Commanding, Str. SURVEYOR

STATISTICS

SHEET NO. M-2333

<u>Vol.</u>	<u>Day</u>	<u>Date</u>	<u>Positions</u>	<u>Soundings</u>	<u>Statute Miles</u>
1	A	6-26-33	106	224	16.9
1	B	6-27	138	301	23.7
1	C	7-17	83	168	12.2
1	D	7-20	45	88	5.5
2	D	7-20	119	224	16.2
2	E	7-21	182	275	16.3
2	F	7-25	103	222	11.8
3	F	7-25	38	75	5.5
3	G	7-26	126	244	18.3
3	H	7-27	136	216	18.3
3	J	7-28	69	172	12.7
4	J	7-28	64	148	12.7
4	K	7-29	33	63	6.6
4	L	7-31	127	296	20.1
4	M	8-1	120	292	16.9
5	M	8-1	45	99	6.1
5	N	8-2	174	423	23.8
5	P	8-3	110	287	12.3
5	Q	8-4	54	71	3.9
6	Q	8-4	60	121	5.5
6	R	8-5	100	161	8.2
6	S	8-7	31	84	3.7
6	T	9-18	57	101	7.5
6	U	9-22	123	151	12.7
7	U	9-22	97	153	10.1
7	V	9-23	65	144	13.0
7	W	9-25	141	271	26.0
7	X	9-26	84	142	15.2
8	X	9-26	13	22	3.1
8	Y	9-27	183	239	21.9
8	Z	9-28	181	287	26.1
9	AA	9-29	169	276	26.6
9	BB	9-30	18	23	2.4
9	CC	10-2	101	143	15.4
9	DD	10-4	113	143	9.4
10	DD	10-4	97	104	6.5
10	EE	10-6	201	266	12.7
10	FF	10-9	129	300	11.6
12	a	9-25	104	427	21.9
12	b	9-26	82	304	15.8
12	c	9-27	103	406	18.6
12	d	9-28	51	153	10.7
13	d	9-28	120	431	18.4
13	e	9-29	73	194	8.0
13	f	9-30	11	21	1.1
13	g	10-9	131	548	27.2
14	h	10-13	57	164	7.0
11	A	10-9	196	821	86.5
Total:			4,763	10,488	712.6

Section of Field Records

Report on H-5427

The records conform to the requirements of the general instructions except that Paragraph 60b of the Hydrographic Manual was not followed in that Special Hydrographic information as tide rips were not noted on the 2nd page of the sounding volumes. ✓

The usual depth curves could be drawn except for a few areas in which the sounding did not sufficiently indicate the contour of the bottom. ✓

The field plotting and drafting was complete. ✓

This sheet joins contemporary sheets H-5421, H-5428, and H-5431. The junctions with all of these sheets are shown on this sheet and all are satisfactory. The junction with H-3353 was not shown, this survey having been made in 1912. ✓

In the vicinity of Lat 60-14.8, Long 147-24.3, the boat sheet shows 2 rocks. One of these rocks was apparently transferred from T-4837 and the other obtained from the note on Page 53 of sounding volume 13. However as plotted on the smooth sheet the location of these 2 rocks are close enough in agreement to indicate that they are the same rock. ~~Two rocks had been shown on the smooth sheet, the one as shown and the other approximately in position 33h and which was apparently transferred from the boat sheet.~~ ✓

Rock (Lat. 60-16.7, Long. 147-20.7) struck by launch, see page 49 of sounding volume 13. The launch draws 3 feet and at the time the tide was 5 feet. This rock was recorded as bearing 2 feet at MLLW. However according to the information available this rock could bare from 2 to 5 feet above MLLW. ✓

This sheet shows 2 rocks near O Rok, Lat 60-16.7, Long. 147-13 and 1 rock near O End, Lat. 60-15.2, Long. 147-11.4. These rocks are not shown on T 4837, or on the boat sheet and they were not located by the hydrography.

These rocks have been erased as they were undoubtedly errors in transfer from the top sheet RFB

Bad Crossings:

1. 7½ fathom sounding on pos. 8 U. (blue) Lat. 60-13.5, Long. 147-31.5. The surrounding depths are considerably greater. This shoal sounding should probably have been investigated. ✓

2. 15 fathom sounding on line 127-128 U (blue) between 17 and 26 fathom soundings Lat 60-11.7, Long. 147-31.3. ✓

3. 19 fathom sounding on blue 86-87A (red) between 23 and 26 fathoms on blue 86-87 x (blue) Lat. 60-11.2, Long 147-27.8. ✓

Bottom characteristics were obtained with the vessel underway while soundings were being taken with a fathometer. There was no indication as to how these bottom characteristics were obtained. It was the opinion of Capt. Adams that it was possible to obtain the bottom characteristics with the machine sounding apparatus while the vessel was underway for the depths encountered on this sheet, ie, up to about 50 or 60 fathoms. ✓

All the required reports and records have been submitted, with the exception that Form 567, Landmarks for Charts, has not been filed with the Descriptive Report. *See Descriptive Report 3.* ✓

V.D. Behn
V.D. Behn.

GEOGRAPHIC NAMES

Survey No. H-5427

Date. Oct. 24, 1934

Chart No. 8515

*Names underlined in red approved Oct 31, 1934
H.B.*

Diagram No. 8551

* Approved by the Division of Geographic Names, Department of Interior.

Ø, Not Approved by the Division of Geographic Names, Department of Interior.

R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	<u>GREEN ISLAND</u> ✓	GREEN ISLAND ✓			
	<u>MONTAGUE ISLAND</u> ✓	MONTAGUE ISLAND ✓			
	<u>PORT CHALMERS</u> ✓	PORT CHALMERS ✓			Lat. 60-14.5 Long 147-13
	<u>WILBY ISLAND</u> ✓	WILBY ISLAND ✓			Lat. 60-14.3 Long 147-14
	<u>GILMOUR POINT</u> ✓	GILMOUR POINT ✓			Lat 60-15.2 Long 147-13.5
	<u>LITTLE GREEN ISLAND</u> ✓	<i>This name is OK. because it is in local use.</i> LITTLE GREEN I	LITTLE GREEN I	LITTLE GREEN I	Lat 60-12 Long 147-31
	<u>PERIL ROCK</u> ✓ <i>To be submitted to D.G.N.</i>	<i>Although this is a common place name there are no Peril Rocks listed in the Map Dic of Alaska or in the Coast Pilot</i> PERIL ROCK		PERIL ROCK	Lat 60-11.7 Long 147-27.7
	<u>CHANNEL ISLAND</u> ^{NO}	<i>No. Too many Channel Islands!</i> CHANNEL I		CHANNEL I	Lat. 60-14.3 Long 147-23

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. H-5427

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

Number of positions on sheet	4,763
Number of positions checked	...80
Number of positions revised4
Number of soundings recorded	10,488
Number of soundings revised
Number of signals erroneously plotted or transferred

Date: Oct. 30, 1934

Cartographer: V. D. BEHN.

Verification of protracting
Verification & inking of ~~reefs and shoals~~) by J. G. Ladd. Time: -

and protracting
Verification of inking by V. D. BEHN. Time: 18 days - 1 hr

Review by R. J. Christman Time: 19 1/2 hrs

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5427 (1933)

Montague Strait, Green Island to Montague Island, Prince William Sound (Alaska)
Instructions dated April 15, 1933 (SURVEYOR)
Surveyed June 26 to Oct. 13, 1933.

Fathometer, Handlead and Machine Soundings - 3-Point fixes on shore objects.

Chief of Party - A.M. Sobieralski

Surveyed by - R.R. Moore: R.C. Rowse: F.B. Quinn: V.M. Gibbens.

Protracted and soundings penciled by - H.F. Garber

Verified and inked by - J.G. Ladd: V.D. Behn

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual.

2. Compliance with Instructions for the Project.

The plan and extent of development are in accordance with the instructions for the project except that there are a number of shoal indications that should have had additional development to determine the least water and to define the depth curves.

3. Sounding Line Crossings.

Soundings on adjacent lines are consistent and agreement in depth where development lines cross the regular system lines is as close as can be expected in this very irregular bottom.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn, including portions of the 1, 2, and 3 fathom curves. There are several places where deeper depth curves had to be approximated but these are in areas of fairly steep slope.

5. Junctions with Surveys.

(a) Junctions with H-5421 (1933), H-5428 (1933) and H-5431 (1933) are satisfactory. There are considerable differences in some of the adjacent depths but this is doubtless due to the irregularity of the bottom.

(b) H-3353 (1911)

The junction with this survey at the southwest end of Green Island has only one sounding in the overlapping area but the 1911 survey shows heavy kelp off the point.

6. Comparison with Prior Surveys

(a) H-3353 (1911)

The only previous surveys by the bureau in this area consists of a few lines of soundings to the southeast of Green Island. Soundings in the deeper area are not in good agreement being 4 to 8 fathoms deeper in depths greater than 36 fathoms. In lesser depths the agreement is fair being as close as can be expected in this irregular bottom.

A 15 in lat. $60^{\circ}12'.9$, long. $147^{\circ}28'.4$ and a 17 in lat. $60^{\circ}12'.75$, long. $147^{\circ}26'.8$, have been carried forward to the new survey. They plot in undeveloped areas, the 15 about 150 meters south of an indicated shoaling of 19 fathoms on H-5427 (1911), and the 17 in irregular bottom westward of an 8 fathom bank. The other soundings to the southeast of Green Island should be superseded by H-5427 (1933).

(b) H-2741 (1905)

Only a very few soundings on this sheet fall within the limits of H-5427 (1933).

(1) An 11 in lat. $60^{\circ}10'.65$, long. $147^{\circ}33'.6$ falls in general depths of 22 to 25 fathoms on H-5427 (1933) but the lines are spaced about 300 meters apart. The 11 fathom was the first sounding on the line after lunch and may be erroneous, but it should be retained until a further examination of the locality has been made.

(2) The reef southwest of Little Green Island (lat. $60^{\circ}11'.5$, long. $147^{\circ}32'.5$) is derived from the boat sheet of H-2741 (1905) and should be superseded by the representation of the reef on H-5427 (1933)

7. Comparison with Chart No. 8515

Within the area of the present survey the chart is based on the soundings discussed in Par. 6a, and the following:

Port Chalmers and the single line of soundings across Montague Strait was taken from sheet 11 of Vancouvers Atlas showing results of a survey in 1794. A general comparison only can be made as positions of the several shoals differ considerably from the locations given on H5427 (1933). All the features on the older survey may be identified in a general way on H-5427 (1933).

8. Field Plotting

Protracting of positions was very good. The penciling of soundings was satisfactory. A few minor corrections in inshore details were made by the verifier.

9. Additional Field Work Recommended.

(a) For Future Consideration

Additional work is recommended as follows:

1. The $7\frac{1}{2}$ fathom shoaling in lat. $60^{\circ}13'.5$, long. $147^{\circ}31'.5$, should be further developed as it is located in a possible passage southwest of Green Island. The sounding is on a regular line with an OK in the record. An additional line was run close northward showing 17 fathoms but there is no evidence that a search was made for the least depth. Additional development is also desirable in the area between the $7\frac{1}{2}$ and Green Island. ✓
2. Split lines should be run in the vicinity of lat. $60^{\circ}11'.0$, long. $147^{\circ}33'.5$ ✓
3. The vicinity of the 11 in lat. $60^{\circ}10'.65$, long. $147^{\circ}33'.6$, mentioned in Par. 6 b-1 should be examined to prove or disprove the existence of a shoal at this place. ✓
4. The area between Green Island and Little Green Island should have closer development. The bottom is very irregular and this may become important as the channel between these islands. ✓
5. A development of the shoal area in the vicinity of lat. $60^{\circ}11'$, long. $147^{\circ}29'.5$ where a 14 fathom was the least depth on the regular system of lines. ✓
6. A split line should be run from approximately lat. $60^{\circ}06'.5$, long. $147^{\circ}28'.8$ to lat. $60^{\circ}13'.3$, long. $147^{\circ}22'$. The space between lines in this vicinity is considerably in excess of that prescribed in the instructions. ✓
7. Split lines should be run in the vicinity of lat. $60^{\circ}11'.5$, long. $147^{\circ}27'.5$ to better define the 20 fathom curve. A further development of the $4\frac{5}{6}$ fathom shoal northeast of the rock awash (O Wash) is also desirable as there is no assurance in the record that the least depth was determined at this place. ✓
8. Additional development should be done in the vicinity of lat. $60^{\circ}13'$, long. $147^{\circ}28'$. Two 19 fathom soundings on the regular system line and a 15 fathom transferred from H-3353 (1911) indicate a shoaling. ✓
9. An undeveloped shoal area with a least depth of $2\frac{2}{6}$ fathoms in lat. $60^{\circ}14'.9$, long. $147^{\circ}22'.7$, needs further examination. The shoal is marked by kelp, but is detached from the group of islands and rocks lying to the southward of it. ✓
10. Additional development should be made of the shoal area in lat. $60^{\circ}15'$, long. $147^{\circ}21'.2$. The depth given by the survey is $7\frac{1}{2}$ fathoms (pos. 152 Z) but there is no assurance that this is the least depth on the shoal. ✓
11. An undeveloped shoal of $4\frac{4}{6}$ fathoms in lat. $60^{\circ}14'.15$, long. $147^{\circ}15'.6$ needs further examination. Its importance is derived from its location near the channel between the eastern and western anchorages of Port Chalmers. ✓
12. The area between Gilmour Point and the $9\frac{1}{2}$ fathom detached shoaling in lat. $60^{\circ}15'.2$, long. $147^{\circ}14'.6$ should have additional development, on account of its importance in entering the eastern anchorage of Port Chalmers. ✓

Many other shoals in this part of Montague Strait that are a menace to navigation have been closely developed or examined by drift sounding.

over them to determine the least depth but because of the nature of the bottom it is desirable that the main channels be surveyed with the wire drag.

10. Superseding Prior Surveys.

Within the area covered, the present survey with indicated additions from previous surveys, supersedes the following survey for charting purposes.

H-3353 (1911) only soundings southeast of Green Island
H-2741 (1905) In part.

11. Reviewed by R.J.Christman, Nov. 1934.

Inspected by - A.L.Shalowitz

Examined and approved:

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

45 Borden
Chief, Section of Field Work.

L O Lobout
Chief, Division of Charts.

G Wude
Chief, Division of H. and T.

Shoal Verification report

H. 5427

Chief of Party - A. M. Sobieralski

Surveyed by - R. R. Moore, R. C. Rowse, F. B. Quinn and V. M. Gibbens.

Shoal and danger spots.

Verified and inked by - John G. Ladd.

1. The records conform to the requirements of the General Instructions. ✓
2. On all shoals that could be considered as possible dangers to navigation, the least depth has been carefully verified and inked. When the least depth was not on a position all the soundings between the two positions involved were inked. ✓
3. All rocks awash, islet, etc., in deep water and near, or in channel areas have been checked against the latest topographic survey (T. 4836 and T. 4837). ✓
4. The area of this survey has never before been surveyed by this Bureau, so that comparisons with previous surveys was not possible. ✓
5. With the exception of "Peril Rock" and "Channel Island", the dangers in the form of sunken rocks shown on chart 8515 vary so widely with this new survey that an intelligent comparison is impossible. ✓

Respectfully Submitted,



John G. Ladd, Asst. Carto. Engr.,
May 31, 1934.

May 14, 1934

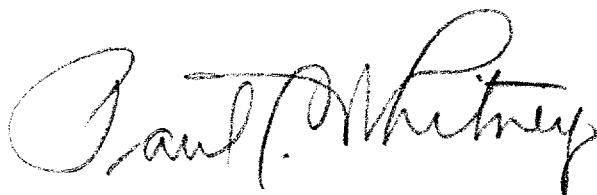
Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET **5427**Locality **Green Island to Montague Island, Prince William Sound, Alaska**Chief of Party: **A. M. Sobieralski in 1933**Plane of reference is **mean lower low water, reading****6.0** ft. on tide staff at **Wilby Island, Port Chalmers****20.4** ft. below B. M. **1****Height of mean higher high water above plane of reference is 11.7 ft.**

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents

20 Jan 24, 1936
CALG.