

5385

5385

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey *Hydrographic*
Field No. Office No.

LOCALITY
State *S.E. Alaska*
General locality *Nixon Entrance*
Locality

1933
CHIEF OF PARTY
Jack Senior

LIBRARY & ARCHIVES

DATE

5385

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

JAN 30 1934

Acc. No. _____

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. FATTON, Director

State: S. E. ALASKA

DESCRIPTIVE REPORT

Topographic
Hydrographic

Sheet No. 3 5385

LOCALITY

LORD ISLANDS - NAKAT BAY

HARRY BAY

DIXON ENTRANCE

19 33

53

CHIEF OF PARTY

JACK SENIOR

5385

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY LIBRARY AND ARCHIVE	REG. NO.
	JAN 30 1934
Acc. No.	

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. 3

REGISTER NO. 5385

State S. E. ALASKA

General locality DIXON ENTRANCE *602*

Locality NAKAT BAY

Scale 1:10,000 Date of survey July & August, 1933.

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

Chief of Party Jack Senior

Surveyed by E. B. Lewey

Protracted by F. S. Butler

Soundings penciled by F. S. Butler

Soundings in fathoms ~~feet~~ and fractions thereof.

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by J. Ladd, P. H. Scherr

Verified by J. Ladd, P. H. Scherr

Instructions dated March 16, 1933.

Remarks:

385

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 3

LORD ISLANDS, NAKAT BAY, AND HARRY BAY

DIXON ENTRANCE

S. E. ALASKA

- 0 -

JACK SENIOR, CHIEF OF PARTY, C. & G. SURVEY

SEASON OF 1933

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET NO. 3

LORD ISLANDS, NAKAT BAY, AND HARRY BAY

DIXON ENTRANCE, S. E. ALASKA

AUTHORITY:

Director's Instructions dated
March 16, 1933, Project No. HT-137.

LIMITS AND GENERAL DESCRIPTION:

This sheet covers approximately the area between Latitudes $54^{\circ} 43.3'$ North and $54^{\circ} 49.5'$ North and Longitudes $130^{\circ} 44.0'$ West and $130^{\circ} 49.5'$ West. Junctions are made with Sheet No. 2, 1933, scale 1:20,000, on the southwestern and southern limits and with Sheet No. 4, 1933, scale 1:10,000, on the eastern limit.

Lord Islands, lying in Latitude $54^{\circ} 44.3'$ North and Longitude $130^{\circ} 47.8'$ West, are in two groups, about $3/4$ mile apart, and have a number of islands in each group, the larger ones wooded and approximately 100 feet in height. There is a clear passage between the two groups of islands but is is foul close around them. The area between Thistle Rock and the north-eastern group of Lord Islands is foul. Lord Rock, Latitude $54^{\circ} 43.5'$ North and Longitude $130^{\circ} 49.1'$ West, is 10 feet in height and has a light on top of a steel tower.

Nakat Bay is about 3 miles long in a north and south direction and averages 2 miles in width. Its entrance is between Cape Fox and Tongass Island. The entrance to Nakat Inlet is from the north-east corner of Nakat Bay.

Harry Bay extends $2-1/2$ miles to the north-west from the north-west corner of Nakat Bay. It averages $1/2$ mile in width.

CONTROL:

Triangulation and topography furnished the necessary control.

METHODS:

The approved methods of the Service were used. In depths less than fifteen fathoms soundings were taken with ten pound handleads, in greater depths soundings were taken with a power driven sounding machine, using an eighteen pound lead and stranded wire.

Shoals were developed by drifting over them and sounding with the hand lead forward and the machine aft.

Sounding lines were run by ranges and in an east and west direction, or approximately normal to the shoreline. The lines were spaced from 50 to 400 meters, depending on the depth.

The least depth on Craig Rock was obtained by Mr. Weidlich with Launch #69 at minus tide on June 8, 1933. The positions are in small case letters and red. All other work on the sheet was done with Tender No. 1, Mr. Lewey in charge; positions are in small case letters and blue.

CHARACTERISTICS OF THE SHORELINE AND BOTTOM:

The shoreline on this sheet is heavily wooded, and in general, is abrupt. The western shores of Tongass and Kanagunut Islands are fringed with rocky reefs to an average distance of 300 meters off-shore. There are several bare and rocky islands in the Lord Islands groups, but the larger islands are wooded with abrupt shores.

The bottom is, for the most part, muddy with occasional patches of sand; particularly, in the deeper water and in the southern part of Harry Bay. At the head of Harry Bay the bottom is sand and eel grass. Around the Lord Islands the bottom is rocky and irregular. Close inshore throughout the sheet, at the entrance to the passage between Tongass and Kanagunut Islands, around Craig Rock, in the vicinity of Tongass Reef, around the 6-1/2 fathom shoal 1/2 mile south-east of Slim Island, and in the vicinity of Ledge Point the bottom is rocky. In the small bight 3/8 mile north-east of Ledge Point the bottom is sand, gravel, and eel grass.

CURRENTS:

From observations while sounding, approximately a two and one half knot current exists at the strength of the tide in Nakat Bay. In general, the direction of the current is north-east on flood tide and south-west on ebb tide.

However, at times the current continues in a north-east direction an hour or two after high slack. This lag in the current is more pronounced at the entrance to Nakat Inlet in the north-east corner of Nakat Bay.

TIDES:

A portable automatic tide gauge established in Nakat Harbor, Latitude 54° 49.2' North, Longitude 130° 42.1' West, was used to determine the tide reducers for the soundings on this sheet.

ANCHORAGES:

There are no recommended anchorages within the limits of this sheet.

COMPARISON WITH PREVIOUS SURVEYS:

Sheet No. 1618 b, 1883:

In general, Sheet No. 1618 b agrees satisfactorily with this sheet. There are some slight differences in the shapes and extents of the reefs around Tongass Island and Tongass Reef. All of the topography in this vicinity was executed at low water and it agrees with the notes and soundings obtained on this sheet.

DANGERS AND OBSTRUCTIONS:

of this sheet are marked with kelp.

Note: See Vol. 8-H 5360 (4) for location of dangers at minus tides which fall within the limits of this sheet (H 5365)

The western half of the area between Slim Island and the mainland is foul and full of kelp.

The area between Tongass Reef Light and Tongass Island is foul and covered with kelp. It is possible for small craft to enter Port Tongass to the southward of Tongass Reef Light by hugging the north shore of Tongass Island and dodging kelp patches. However, this passage is not recommended. The passage to the northward of the light is recommended for all craft.

The areas off the western and southern shores of Tongass Island and the western shore of Kanagunut Island are foul to an average distance of 300 meters offshore. These areas are full of heavy kelp.

The area extending one mile north-east of triangulation station "CAPE", 1933, Latitude $54^{\circ} 45.8'$ North, Longitude $130^{\circ} 50.6'$ West, and 200 meters offshore is foul and full of kelp.

1. Foul area 360 meters long in a north-west, south-east direction and 50 meters wide at topographic station "CRAB", Latitude $54^{\circ} 49.6'$ North, Longitude $130^{\circ} 46.8'$ West.

2. Southern end of reef 140 meters, 162° true from triangulation station "LEDGE".

3. Foul area 250 meters long in a north-west, south-east direction and 45 meters wide 630 meters, 249° true from triangulation station "LEDGE". This area is kelp marked.

4. Small reef baring 6 feet at M.L.L.W., 235 meters, 274° true from triangulation station "LEDGE". Reef is kelp marked.

5. Shoal covered $6-4/8$ fathoms at M.L.L.W., 760 meters, 116° true from triangulation station "SLIM". Position 33 "x", rocky bottom.

6. Group of rocky reefs extending 215 meters, south and south-west of Tongass Reef Light, highest reef is awash at High Water. This area is full of kelp.

7. Passage Rock baring 7 feet at M.L.L.W., 500 meters, 307° true from triangulation station "FORT". Rock is kelp marked.

8. Track Rock baring 6 feet at M.L.L.W., 360 meters, 294° true from triangulation station "FORT". Rock is kelp marked.

9. Craig Rock covered 3 feet at M.L.L.W., 1240 meters, 278° true from triangulation station "VIL". Rock is kelp marked.

10. Reef 160 meters long in a north and south direction awash at High Water, 670 meters, 280° true from triangulation station "COVER". Reef is kelp marked. $54^{\circ} 46.15'$, $130^{\circ} 45.05'$ W.M.

11. Circular reef 100 meters in diameter awash at High Water, 550 meters, 254° true from triangulation station "COVER". The reef is surrounded with kelp.

← make its
awash"
P.H.S

12. Rock awash at M.L.L.W., 520 meters, 335° true from triangulation station "NEAR". Rock is marked with kelp. ✓

13. Rock baring one foot at M.L.L.W., 390 meters, 345° true from triangulation station "NEAR". Rock is marked with kelp. ✓

14. Rock in kelp baring 3 feet at M.L.L.W., 285 meters, 352° true from triangulation station "NEAR". ✓

15. Rock in kelp baring 3 feet at M.L.L.W., 245 meters, 346° true from triangulation station "NEAR". ✓

16. Rock in kelp baring 2 feet at M.L.L.W., 170 meters, 324° true from triangulation station "NEAR". ✓

17. Rocky shoal in kelp covered 2-1/6 fathoms at M.L.L.W., 980 meters, 292° true from triangulation station "NEAR". Position 101 "b". ✓

18. Two small reefs in kelp baring 8 feet at M.L.L.W., 515 meters, 177° true from triangulation station "NEAR". ✓

19. Reef in kelp 220 meters long in a north and south direction 1060 meters, 289° true from triangulation station "KANA". ✓

20. Rock in kelp baring 4 feet at M.L.L.W., 270 meters, 14° true from triangulation station "BOAT ROCK LIGHT HOUSE". ✓

21. Reef extending 100 meters 44° true from triangulation station "BOAT ROCK LIGHT HOUSE". ✓

22. Rock baring 6 feet at M.L.L.W., 650 meters, 227° true from triangulation station "BOAT ROCK LIGHT HOUSE". ✓

23. Rock baring 8 feet at M.L.L.W., 740 meters, 228° true from triangulation station "BOAT ROCK LIGHT HOUSE". ✓

24. Reef extending 145 meters, 199° true from topographic station "CARL". ✓

25. Rock in kelp baring 3 feet at M.L.L.W., 1140 meters, 56° true from triangulation station "CAPE". ✓

26. Eastern end of reef extending from High Water rock 990 meters, 59° true from triangulation station "CAPE". ✓
27. Rock in kelp awash at M.L.L.W., 525 meters, 68° true from triangulation station "CAPE". ✓
28. Shoal covered $3\frac{1}{2}$ fathoms at M.L.L.W., 600 meters, 63° true from topographic station "THIS". Position 83 "r", rocky bottom. ✓
29. Rock in kelp baring one foot at M.L.L.W., 875 meters, 79° true from topographic station "THIS". ✓
30. Reef in kelp baring 3 feet at M.L.L.W., 1010 meters, 89° true from topographic station "THIS". *4 feet on H 5385* *included as 4'* ✓
31. Reef 70 meters long in a north-east, south-west direction baring 8 feet at M.L.L.W., 640 meters, 132° true from topographic station "THIS". *13 on H 5385* *included as 13'* ✓
32. Sunken rock covered one foot at M.L.L.W., 650 meters, 146° true from topographic station "THIS". *made "rk awash"* ✓
33. Sunken rock covered 3 feet at M.L.L.W., 460 meters, 164° true from topographic station "THIS". " " ✓
34. Reef baring 8 feet at M.L.L.W., 240 meters, 166° true from topographic station "THIS". ✓
35. Sunken rock covered 5 feet at M.L.L.W., 590 meters, 235° true from topographic station "THIS". Position 73 "r" ✓
36. Reefs extending 160 meters south-east of topographic station "THIS". South sides of the reefs are fringed with kelp. ✓
37. The small bight between topographic stations "WIN" and "HEN" is foul and full of kelp to a distance of 200 meters off-shore. ✓
38. Sunken rock covered 2 feet at M.L.L.W., 380 meters, 83° true from topographic station "DAS". *2 1/2 on H 5385* *changed to "1/2 awash"* ✓
39. Rocky shoal covered $3\frac{2}{6}$ fathoms at M.L.L.W., 890 meters, 112° true from topographic station "DAS". ✓
40. Rocky shoal covered $4\frac{1}{2}$ fathoms at M.L.L.W., 250 meters, 245° true from topographic station "SIL". Sounding before position 30 "1". ✓

41. Rocky shoal covered $3\frac{1}{2}$ fathoms at M.L.L.W., 170 meters, 345° true from topographic station "SIL". Position 69 "q". ✓

42. Rocky shoal covered $4\frac{1}{2}$ fathoms at M.L.L.W., 640 meters, 136° true from triangulation station "LORD ROCK LT.". Position 116 "m". ✓

All other ledges and rocks close inshore are properly noted on the smooth sheet.

Respectfully submitted,

Ernest B. Lewey
Ernest B. Lewey,
Jr. H. & G. Engr.,
Coast & Geodetic Survey.

Approved and forwarded,

Jack Senior

Jack Senior,
Commanding Officer,
U.S.C. & G.S.S. EXPLORER.

ADDITIONS BY MR. MALNATE

43. Rock covered 1 foot at M.L.L.W. 520 meters 70° true from triangulation station "CAPE".

44. A shoal with a least depth of $1\text{-}5/6$ fathoms is 360 meters 147° true from triangulation station "TONGASS REEF LIGHT HOUSE". ✓

*see part 27
changed to
"KAWASH"
P.M.S.*

STATISTICS

HYDROGRAPHIC SHEET NO. 3

DATE	VOL.	DAY	BOAT	STAT. MILES	POS.	SOUNDINGS HAND - MACH		AREA	MILES TO & FROM WORK
			Tender						
7/24	1	a	#1	16.3	115	90	209		4.2
7/25	1	b	"	19.8	127	89	253		6.5
7/26	1&2	c	"	13.8	177	321	171		7.6
7/27	2	d	"	15.4	176	345	126		7.2
7/28	2	e	"	14.6	180	319	132		8.0
7/29	2&3	f	"	8.1	118	101	149		5.5
July Totals:				88.0	893	1265	1040	10.0	39.0
8/3	3	g	"	18.6	198	220	292		7.2
8/4	3	h	"	4.6	73	123	46		6.7
8/5	3	j	"	7.8	89	112	105		1.8
8/6	4	k	"	13.3	164	409	111		4.9
8/7	4	l	"	18.9	184	204	363		8.4
8/8	5	m	"	12.0	184	211	234		10.4
8/9	5	n	"	0.4	7	2	11		6.0
8/16	5	p	"	6.7	84	78	140		1.2
8/17	5	q	"	4.5	81	119	45		8.0
8/18	6	r	"	4.8	107	212	43		7.7
8/19	6	s	"	17.2	217	262	252		3.0
8/20	6&7	t	"	16.4	195	244	255		2.2
8/21	7	u	"	0.7	10	27	6		1.2
8/22	7	v	"	13.3	148	58	288		3.3
8/23	7&8	w	"	16.3	204	425	183		9.8
8/24	8	x	"	16.8	207	192	299		5.0
8/25	8&9	y	"	14.7	206	346	228		5.9
8/26	9	z	"	14.2	209	481	190		8.4
8/27	9	a'	"	2.0	28	95	12		4.0
8/28	10	b'	"	6.6	107	67	145		6.3
August Totals:				209.8	2702	3887	3248	18.52	111.4
Grand Total:				297.8	3595	5152	4288	28.52	150.4

200

February 20, 1934

Division of Hydrography and Topography:

Division of Charts:

Tide Reducers are approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 5385

Locality Nakat Bay, Southeast Alaska

Chief of Party: Jack Senior in 1933

Plane of reference is mean lower low water, reading

4.7 ft. on tide staff at Nakat Harbor

16.6 ft. below B. M. 2

Height of mean higher high water above plane of reference is 14.7 feet.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. *5385*

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

Number of positions on sheet	<i>3595</i>
Number of positions checked	<i>123</i>
Number of positions revised	<i>2</i>
Number of soundings recorded	<i>9440</i>
Number of soundings revised	<i>53</i>
Number of signals erroneously plotted or transferred	<i>1</i>

Date:..... *July 24, 1934*

Cartographer:..... *P. H. Scherr*

Verification of protracting	} by <i>J. Ladd</i>	Time: <i>7 days, 3/4 hrs.</i>
Verification & inking of rocks & shoals		
Verification of inking by	<i>P. H. Scherr</i>	Time: <i>16 days 6 1/2 hrs.</i>
Review by	<i>John G. Ladd</i>	Time: <i>30 hrs</i>

Section of Field Records

Report on H. 5385.

Chief of Party - Jack Senior.

Surveyed in July - August, 1933.

Surveyed by - E. B. Lewey.

Verified and inked by - J. Ladd, P. H. Scherr.

1. The records conform to the requirements of the General Instructions, except that the reduced soundings of the second volume of the records ~~were~~ not checked properly. ✓
2. The usual depth curves were drawn. Tightly congested soundings, in cases, prevented the drawing of certain curves. ✓
3. The field plotting was completed to the extent prescribed in the General Instructions. Another line of soundings was plotted on the continuation of Harry Bay to effect a junction with the sheet proper. ✓
4. The office draftsman did over no part of the drafting done by the field party. However the entire reef line and low water line was inked which had only been dashed in pencil by the field party. This, as penciled, did not agree in many cases with the topographic sheet and was changed to do so. The reef line in certain cases as given by the topographic sheet was modified by the hydrography when found necessary. ✓
5. No junctions were made as no contemporary adjacent finished sheets are available. See *
6. Remarks.

a. There is a floating trap recorded on lll a day, (P. 23, Vol 1.,) at lat. $54^{\circ}46'.5$; long. $130^{\circ}48'.2$ which was not inked. ^{dup} There is also a trap lead mentioned on Page 62, Vol. 3; and a fish net on P. 12, Vol. 8. *These two references refer to the same fish trap which has been shown on the sheet*

b. There are numerous discrepancies between the hydrography and topographic sheet concerning rocks and reefs. These, except in few cases, were changed to agree with the hydrography. The exception is the reef at lat. $54^{\circ}44'.8$; long. $130^{\circ}48'.2$, which the topographic sheet was inked as "baring 8' MLLW." while the sounding records indicate this to be barely a reef awash. *no discrepancy as topographic sheet refers to highest or lower part of reef whereas Hydro. refers to outer edge of reef. P.H.*

c. There is a reef off Station "HUMP", lat. $54^{\circ}48'.3$; long. $130^{\circ}47'.2$, see par which the topographic sheet shows "Awash H. W." Position 94, S day; of the records shows it to be an islet, which the field party had inked as such. Another note on position 89, S day, disagrees with this, calling it a reef baring 10' at MLLW. *pos. 89 S likely refers to southern end of reef nearest to the station. P.H.*

d. Another reef 300 meters south of the above-mentioned one, is also described by the topographic sheet as awash at High Water. Position 73S, Vol. 6 shows reef is awash at 9 feet above MLLW. ~~The topographic sheet was followed on this reef.~~ *The Hydro. value has been accepted as the more accurate. P.H.*

e. The note in the records (Vol. 7; P. 22) concerning a rock on position 1, U Day, lat. $54^{\circ}47'.2$, long. $130^{\circ}44'.8$ disagrees with the topographic sheet. The 7 foot notation evidently pertains to the rock and not to the reef as the reef is definitely indicated in a different direction. *as note in records -> clear the 7' above M.H.W. as per Hydro. is accepted rather than the 2" as per the Topo. H.S.*

f. The note in the records on position 94W, (P. 69, Vol. 7) indicates that there is more than one rock on this position. *Plotted as one Rk.*

g. In compliance with the latest instructions concerning rocks awash, all sunken rocks covered by three feet of water or less, were noted as "rk awash at MLLW". The half fathom sounding over Craig Rock was changed also in this manner.

h. A rock awash is located by Pos. 118 S day, (P. 37, Vol. 6) lat. $54^{\circ}48'.2$, long. $130^{\circ}47'.1$, which may be the same rock just above it as located by the topographic party. *Pos 118 S is a good sounding and is plotted as such H.S.*

i. The reef on position 3, K day, (P. 3, Vol. 4) lat. $54^{\circ}45'.6$, long. $130^{\circ}44'.2$, is inked on the topographic sheet as a rock awash, and was also so inked on the smooth sheet. It was changed to agree with the sounding records. *✓✓*

k. There is a sunken rock drawn in ink ^{by the field party} at lat. $54^{\circ}46'.0$, long. $130^{\circ}44'.1$ for which no evidence is found on the boat sheet or in the records. *removed from sheet H.S.*

7. The field drafting was well done.

Respectfully submitted,

Paul H. Scherr.

Paul H. Scherr,
Jr. Carto. Engr.

July 24, 1934.

* July 31, 1934

Overlap from #5388 transferred this date. Junction good. Some soundings in shoal areas near Good Rock omitted when not affecting the curves. Curves on both sheets (5385 and 5388) corrected.

Mark Gunnell

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5385 (1933).

Nakat Bay, Dixon Entrance, S. E. Alaska.
Instructions dated March 24, 1932 and March 16, 1933 (EXPLORER)
Surveyed - July - Aug. 1933.

Machine and Hand Lead Soundings - 3 Point Fixes on Shore Signals.

Chief of Party - Jack Senior.
Surveyed by - E. B. Lewey.
Protracted and soundings penciled by - F. S. Butler.
Verified and inked by - J. G. Ladd; P. H. Scherr.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual with the following exceptions:

- a. A list of the topographic and hydrographic signals used on the smooth sheet was not contained in sounding records. (Par. 139).
- b. Evidence that the triangulation stations and topographic signals were checked in the field was lacking since the initials of the checker were not shown on the sheet. This checking has been done in the office.
- c. The topographic features outside the highwater line had not been completely transferred from the new topographic survey to the hydrographic smooth sheet. This has been accomplished in the office.
- d. It should be mentioned as a matter of record that the locations of dangers at minus tides are recorded in the records of H. 5360 (1933), Vol. 8.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project.

3. Sounding Line Crossings.

There is no regular system of cross lines. However the closely spaced parallel lines are in good agreement.

4. Depth Curves.

Within the limits of the survey the usual depth curves may be satisfactorily drawn including portions of the 1, 2, 3, and 5 fathom curves.

5. Junctions with Contemporary Surveys.

On the south and west a satisfactory junction is made with H. 5388 (1933). The junction on the east with H. 5360 (1933) is satisfactory.

6. Comparison with Prior Surveys.

There are three prior surveys within the limits of H. 5385 (1933). They are H. 1614 (1883), H. 1618b (1883) and H. 3392 (1912).

1. H. 1614 (1883) and H. 1618b (1883).

These two sheets are considered together as they are not independent surveys. H. 1618b (1883) is a 1:10,000 scale plotting of a portion of H. 1614 (1883) which is on a 1:40,000 scale, consequently the 1:10,000 sheet shows a greater number of soundings within its limits. A very good agreement is made with the new survey with the following exceptions:

a. Two 9 fathom soundings (about 260 meters apart) originating with H. 1618b (1883) in the vicinity of lat. $54^{\circ}46'$, long. $130^{\circ}45'.4$, fall in depths of 11 to 14 fathoms on the new survey. The new survey shows a distinct shoaling in this area but with insufficient development to disprove the two 9 fathom soundings. They have therefore been carried forward to the new survey and should be used in charting the area.

b. A small charted reef, originating with H. 1618b (1883) falls on the new survey in depths of 20 fathoms, at lat. $54^{\circ}48'.45$, Long. $130^{\circ}45'.75$. It is apparently an erroneous location of the reef on the present survey northeast from the old position. Inasmuch as sounding lines were run on H. 5385 (1933) at zero tide in this area, this reef would have been seen if it were in the position shown on H. 1618b (1883). The delineation of rocks and reefs in this area as shown on H. 5385 (1933) should supersede those on H. 1618b (1883).

c. A 9 fathom sounding, shown on Charts 8075 and 8051, $\frac{3}{4}$ of a mile north of Fleece Rock (lat. $54^{\circ}43'.5$, long. $130^{\circ}47'.4$) was taken from H. 1614 (1883). The present survey shows a least depth of 11 fathoms in this area. As the $9\frac{1}{4}$ fathom sounding as shown on H. 1614 (1883) could not be identified in the records for H. 1614 (1883) it was not carried forward.

d. The charted sunken rock which falls on the present survey in lat. $54^{\circ}46'.62$, long. $130^{\circ}44'.6$, originates with H. 1618b (1883) and is actually a 17 foot sounding in the records of H. 1618b (1883) (pos. 72 d - blue). This depth agrees well with the soundings on the new survey. The sunken rock symbol on Chart Nos. 8051 and 8074 should be superseded by the delineation as shown on H. 5385 (1933).

e. The charted 6 fathom sounding, which originates with H. 1618b (1883), falls on the new survey on a 28 fathom sounding at lat. $54^{\circ}46'$, long. $130^{\circ}45'.15$. An examination of the records of H. 1618b (1883) shows that it was erroneously plotted. Its correct position should be about 150 meters to the east where it would agree satisfactorily with the soundings of the new survey. The 6 fathom sounding should therefore be disregarded in future charting.

f. In comparing the rocks shown on these surveys (H. 1614 (1883) and H. 1618 (1883)) which are also topographic surveys for the area covered, and those shown on the present survey, H. 5385 (1933), a number of conflicts were found to exist which were disposed of in accordance with the principles laid down in "Instructions for Review of Hydrographic Surveys". It was deemed necessary to carry forward to the new survey several rocks awash and these are shown in red. Apart from the soundings and rocks brought forward, H. 1614 (1883) and H. 1618b (1883) should be superseded by the new survey, H. 5385 (1933), within the area covered by that sheet.

2. H. 3392 (1912).

This survey which overlaps the new survey on the northeast is in satisfactory agreement with H. 5385 (1933). Inasmuch as it (H. 3392) contains nothing additional to the present survey it can be superseded by H. 5385 (1933) within the limits of the latter sheet.

7. Comparison with Chart Nos. 8074, 8075, 8051 and 8120.

a. The charted rock awash at lat. $54^{\circ}45'.98$, long. $130^{\circ}44'.81$, the $\frac{1}{2}$ fathom sounding on rock at lat. $54^{\circ}45'.9$, long. $130^{\circ}44'.56$ and the $2\frac{1}{2}$ fathom sounding at lat. $54^{\circ}45'.98$, long. $130^{\circ}44'.5$, originate with Chart Letter No. 277 (1916). They were located by A. J. Ela, Nautical Expert, Coast & Geodetic Survey, by angles to various shoreline tangents and were plotted using the shoreline as shown on the old survey, H. 1618b (1883) which differs widely with the new survey. They have been ~~disproved~~ ^{disposed of} as follows:

1. The rock awash was plotted in its most likely position using the latest topography (T. 4803 (1933)) and falls just north of a $2\frac{1}{2}$ fathom sounding on the new survey in lat. $54^{\circ}45'.93$, long. $130^{\circ}44'.95$. The records for H. 5385 (1933) show that the $2\frac{1}{2}$ fathom sounding was taken at a minus tide while searching for dangers and no mention of a rock awash was made. However, inasmuch as the party in 1916 actually saw the rock (was bare 4 feet at a minus 1 foot tide), it was carried forward to the new survey with an appropriate note and plotted by using the new topography. The charted position should be changed to agree with H. 5385 (1933).

2. The $\frac{1}{2}$ fathom sounding, plotted using the new topography, falls about 30 meters north of the rock awash on H. 5385 (1933) at lat. $54^{\circ}45'.85$, long. $130^{\circ}44'.75$. The records for H. 5385 (1933) show that the $2\frac{2}{6}$ fathom sounding about 5 meters to the north of this rock was taken at minus tides and that the rock then covered one foot. This rock, awash at minus tide, is evidently the correct location of the $\frac{1}{2}$ fathom sounding which should be replaced on the chart by the rock symbol on H. 5385 (1933).

3. The $2\frac{1}{2}$ fathom sounding, in the same manner, falls on the new survey a few meters north of a $2\frac{2}{6}$ fathom sounding which was taken at minus tide. The $2\frac{2}{6}$ of the new survey should be charted in

place of the old $2\frac{1}{2}$ fathom sounding from Letter 277, 1916.

b. The 3 rocks awash shown on Charts 8051 and 8075, just south-east of Thistle Rock, were indefinitely located by compass bearings and what appear to be estimated distances. (Letter 322 - 1917). They should be superseded by the delineation of well determined rocks shown on H. 5385 (1933).

c. The charted 2 fathom sounding at lat. $54^{\circ}45'.77$, and long. $130^{\circ}-45'.40$, is a preliminary depth originating with Chart Letter No. 97 (1934). The final reduced depth at this spot is $2\frac{1}{6}$ fathoms (pos. 101 b'blue), shown on H. 5385 (1933). With these exceptions and matters discussed in the previous paragraphs there are no other rocks, shoals or matters of importance that need consideration in this review.

8. Field Plotting.

The field plotting was well done, except for the failure to completely transfer the reef symbols from the topographic sheets.

9. Additional Field Work Recommended.

a. For future consideration.

In general the area has been satisfactorily covered. The most important shoals have been extensively examined by drift soundings, however there still remain several other shoal indications of lesser importance which should be further examined when opportunity affords. Among these are the following:

1. A 14 fathom shoaling approximately $\frac{1}{4}$ mi. N.N.E. from Lord Rock.
2. A 4 fathom shoaling about $\frac{1}{2}$ mi. north of Fleece Rock and a $4\frac{2}{6}$ fathom spot $\frac{3}{10}$ mi. north of Fleece Rock.
3. An $8\frac{1}{2}$ fathom shoal about 300 meters S.S.E. from Lord Rock.
4. An 11 fathom shoaling in lat. $54^{\circ}45'.4$, long. $130^{\circ}45'.3$.
5. A $5\frac{5}{6}$ fathom shoaling in the passage about $\frac{1}{10}$ mi. west of Ledge Pt.
6. An $8\frac{1}{2}$ fathom shoal about 500 meters due east from Thistle Rk.
7. A $5\frac{5}{6}$ fathom shoaling in lat. $54^{\circ}48'.65$, long. $130^{\circ}46'.10$, which lies in a possible future ship lane.
8. A $9\frac{1}{2}$ fathom shoal at lat. $54^{\circ}49'.1$, long. $130^{\circ}46'.2$ and a 12 fathom shoal at lat. $54^{\circ}48'.9$, long. $130^{\circ}46'.3$, both of which lie along the route to a possible harbor in the small bay to the north.

10. Note to Compiler.

The center portion of the reef shown on the new survey at lat. $54^{\circ}48'.35$, long. $130^{\circ}47'.15$, is indicated as a bare islet in accordance with the note at pos. 94 S of the sounding volumes which states "highest point of reef about 2 feet above high water". It should be charted as shown on H. 5385 and a note has been added to T. 4803 to that effect.

11. Superseding Old Surveys.

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

H. 1614 (1883) in part.
H. 1618b (1883) in part.
H. 3392 (1912) in part.

12. Reviewed by - John G. Ladd, August 1934.

Inspected by - A. L. Shalowitz.

K. T. Adams
K. T. Adams,
Chief, Section of Field Records.

Examined and approved:

L. O. Pollock
Chief, Division of Charts.

F. S. Borden
Chief, Section of Field Work.

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

Applied to drawing (compilation) of reconstructed
Chart No 8075. Aug. 1934. S.B.M.

Applied to drawing of Chart No 8102. Sept. 1934, S.B.M.

Applied to new compilation, plan of Napak Harbor
Chart No. 8120 Oct. 30, 1934 G.H.S.

Applied to drawing (compilation) of new chart No 8053.
Oct. 1935, S.B.M.

Applied to new compilation, Chart 8141 (1936),
James W. McGuire.