

# 8391

Diag. Cht. No. 8152-2.

<b>Form 504</b> U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY  <b>DESCRIPTIVE REPORT</b>	
<i>Type of Survey</i> Hydrographic	
<i>Field No.</i> H0-1357	<i>Office No.</i> H-8391
<b>LOCALITY</b>	
<i>State</i> S. E. Alaska	
<i>General locality</i> El Capitan Passage	
<i>Locality</i> Cap Island to Brockman Island	
<u>1957</u>	
<b>CHIEF OF PARTY</b>	
E. W. Richards	
<b>LIBRARY &amp; ARCHIVES</b>	
<b>DATE</b> July 13, 1960	

USCOMM-DC 5087

8391

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

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.

REGISTER NO. H-8391

Field No. HO-1357

State S. E. Alaska

General locality West Side Prince of Wales Island

Locality El Capitan Passage

Scale 1:10,000 Date of survey June 19 - Sept. 25<sup>16</sup>, 1957

Instructions dated 21 Nov. 1955 and 1 Oct. 1956

Vessel Ship HODGSON (Launches 93 and 95)

Chief of party S. W. Richards

Surveyed by J. P. Randall, M. D. Christensen, and L. D. Thurman

Soundings taken by ~~fathometer~~ graphic recorder, hand lead, wire

Fathograms scaled by EWR, MDC, EEM, HH, JDE

Fathograms checked by EWR, LDT, EEM, HH, JDE, CB, AS

Protracted by A. M. L. & V. F. Flor

Soundings penciled by V. F. Flor

Soundings in fathoms and tenths  
1 foot at MLLW MLLW and are based on a

REMARKS: velocity of sound at 800 fms per second.

*Handwritten initials*

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SURVEY NO. H-8391 (FIELD NO. HO-1357)

1957

SHIP HODGSON

SCALE 1:10,000

E. W. RICHARDS, COMDG.

A. PROJECT:

This survey was executed as a part of Project 13470 in accordance with Revised Instructions dated 21 November 1955, Supplemental Instructions dated 1 Oct. 1956, and Director's letter dated 11 June 1957, File No. 22 rct S-2-HO, Subject - Resurvey of Sarkar Lake.

B. SURVEY LIMITS AND DATES:

This survey begins at a line across El Capitan Passage at approximately Lat.  $55^{\circ} 58' 55''$  and extends southward to a line across the southern end of El Capitan Passage at approximately Lat.  $55^{\circ} 54' 00''$ . It extends southeastward to a line across the northern end of Tuxekan Passage.

Field work began 19 June and was completed on 25 Sept. 1957.

This survey is joined on the north <sup>(1956)</sup> by Survey H-7987 (Field No. HO-1257), on the south by Survey H-8288 (Field No. HO-1356); and in Tuxekan Passage by Survey H-8038 <sup>(1957)</sup> (Field No. PA-1353). A sheet layout has been previously submitted. <sup>(1953, 1957)</sup>

C. VESSEL AND EQUIPMENT:

The survey was executed by the Ship HODGSON and Launches Nos. 93 and 95 which operated from the Ship HODGSON.

Soundings were taken from all vessels with an 808 type graphic recorder and supplemented on critical shoals by vertical casts taken with a leadline.

The depths which were recorded while obtaining bottom samples with a snapper should be disregarded in most cases as the emphasis was placed on obtaining a bottom rather than insuring that the casts were vertical.

D. TIDE AND CURRENT STATIONS:

Mean lower low water as recorded on the portable automatic tide gage at New Tokeen, Lat.  $55^{\circ} 56' 25''$ , Long.  $133^{\circ} 19' 47''$  was used for the reduction of all soundings on this survey with the exception of "ee" day Leh. 95, "ff" day Leh. 95, and "gg" day Leh. 95 when the Karheen Tide Gage, Lat.  $55^{\circ} 49' 47''$ , Long.  $133^{\circ} 19' 50''$  was used. Time or range corrections were not needed on either tide gage. *The latter falls off this survey limits*

A tide staff was placed in Tunga Inlet, a salt water lagoon at Lat. 55° 58', Long. 133° 14', and periodically readings were taken while the hydrography was being done. (See paragraph Y for an explanation of the tide reducer used in this lagoon.) *Not plotted on Smooth Sheet.*

One current station was occupied <sup>not</sup> on this survey) at Lat. 55° 53' 26", Long. 133° 16' 08".

E. SMOOTH SHEET:

The smooth sheet projection was made by hand at the Ship's Base in Seattle by ship's personnel. The shoreline and topographic detail was transferred to the smooth sheet from blue-line prints of the photogrammetric manuscripts furnished by the Washington Office. The signals were pricked through from the manuscripts. The signals, shoreline, and topographic detail were checked upon completion.

The plotting of the hydrography will not be completed by ship's personnel. The sheet will be transferred to the Seattle Processing Office for completion. Their report will be added as an addendum to this report.

F. CONTROL STATIONS:

The triangulation used to control the surveys of this area was established in 1922 by T.J.M., 1904 by E.F.D., or 1953 by C.A.S.

There are a number of marked topographic stations in this area. These stations were originally marked in 1922. The 1922 locations were not available to this survey. Therefore the stations were relocated photogrammetrically and this new location used to control the survey. All photo-hydro signals for this survey are found on Surveys T-10390, T-10391, T-10392, T-10399, and T-11100.

A number of signals were located by sextant cuts taken from or on photo-hydro stations or triangulation stations. These stations are indexed in the front of the volume in which they appear.

G. SHORELINE AND TOPOGRAPHY:

All shoreline on the smooth sheet was taken from incomplete photogrammetric manuscripts No'd. T-10390, T-10391, T-10392, T-10399, and T-11100.

Due to the misplacing of the field photographs on which shoreline and topography revision notes were recorded, these revisions do not appear on the smooth sheet. However, the shoreline on the incomplete manuscripts appears to be quite accurate. No serious conflicts between the hydrography and the shoreline were noted on the boatsheets.

It was not practical in most places to try to define the low water line because of the steep banks and numerous rocks and reefs adjacent to the shore. A sounding line was run as near the shore as feasible and an effort was made to delineate the adjacent 5 fathom curve.

This author suggests that in areas of steep banks such as exist in much of the Alaskan waters, the practice of running a sounding line parallel to and as close as possible to the shoreline be confined to areas of gradual sloping beaches only.

NOTE

#### H. SOUNDINGS:

All soundings were taken with 808 type graphic recorders, calibrated for a speed of 800 fathoms per second.

The fathometer was set correctly each morning by taking a reading on a bar suspended 2 fathoms below the surface. The fathometer initial mark for this reading was recorded. Compensation is made for variation of the initial during the day from this bar reading, by corrections entered in the sounding volumes. The fathometer was again checked by the bar at the end of the day. A check was made on the fathometer speed at the time of the bar check and at other times during the day by the hydrographer.

No corrections for temperature and salinity were applied to fathometer soundings. All other corrections to the soundings have been entered and checked in the sounding volumes.

#### I. CONTROL OF HYDROGRAPHY:

All hydrography was controlled by sextant fixes taken at required intervals and the soundings were properly spaced between fixes.

Attention is called to the varying sounding speed along beach lines and in narrow channels. These apparent changes of speed were caused by current, kelp beds, rudder drag, or slight changes of engine speed. Sufficient sextant fixes were taken however, so that no sounding is appreciably displaced.

In plotting the smooth sheet, reference should be made to the boat-sheet for line direction between fixes along the beach lines.

#### J. ADEQUACY OF SURVEY:

This survey is complete and adequate for the area except for the application of shoreline and topographic detail from advance prints of the manuscripts. The shoreline and topographic detail on the smooth sheet was obtained from incomplete prints of the manuscripts. Due to the apparent misplacing of the field photographs of this area in the Washington Office, revisions obtained from field inspection notes were not incorporated into the incomplete manuscripts to make advance manuscripts. The above mentioned photographs were forwarded to and receipted by the Washington Office.

Comparison of the boatsheets indicate satisfactory junctions with Survey H-7987 (HO-1257) on the north; Survey H-8288 (HO-1356) on the south; and Survey H-8083 (PA-1353) in Tuxekan Passage. There are no holidays or excessive differences of depths at the junctions of the surveys. A more thorough comparison of the junctions should be made upon

completion of the processing of the smooth sheets concerned.

K. CROSSLINES:

6% of the total lines run were crosslines. No significant crossing discrepancies were noted on the boatsheet.

L. COMPARISON WITH PRIOR SURVEYS:

This survey was originally surveyed on Sheet No. H-4329 (1923) and H-4330 (1923). *See review*

The soundings of the present survey are in general agreement with those of the prior survey.

No rocks or dangers shown on the old survey were disproved by the present survey. Numerous additional rocks were found and shoaler depths were obtained on some reefs previously located.

M. COMPARISON WITH CHART:

The area covered by this Survey lies within Chart 8171. Chart 8171 has a print date of 1/14/57. The final comparison will be made upon completion of the smooth sheet. *See review*

N. DANGERS AND SHOALS:

All dangers and shoals are clearly indicated on the boatsheet. A tabular list will not be included here since the depth may be changed slightly on the smooth sheet. *except rock on which launch grounded on 5'day pas 91 See review*

O. COAST PILOT INFORMATION:

A coast pilot report has been submitted for the entire 1957 season.

P. AIDS TO NAVIGATION:

Hub Rock Daybeacon (Lat. 55° 56' 30", Long. 133° 17' 45") located in 1953 by C.A.S. is the only fixed aid to navigation in the area of this survey. Burnt Is. Lt. was covered in the Descriptive Report for H-7987 (HO-1257).

El Capitan Passage Buoy 1 (Lat. 55° 55' <sup>44"</sup>39", Long. 133° 18' 02") is the only floating aid to navigation on this survey. *55° 55.67 133° 18.025*

Q. LANDMARKS FOR CHARTS:

There are no landmarks prominent enough to be used for aids to navigation. Buildings located on this survey are not visible for a sufficient distance to be valuable as landmarks.

R. GEOGRAPHIC NAMES:

*1913* A special report on Geographic Names was submitted for the entire area of the 1957 season.

S. SILTED AREAS:

There are no important silted areas on this survey. ✓

X. MISCELLANEOUS:

The standard procedure for investigating shoals was to run sounding lines 10 meters apart and normal to the regular pattern of the sounding lines until the least depth was obtained. The investigation was done on a linen overlay and stapled into the sounding volume where the soundings were recorded.

It is suggested that when the smooth sheet is plotted, only those positions needed to establish the location of the least depth, or provide soundings for delineation of the depth curves be plotted on the smooth sheet.

Y. TIDE REDUCERS FOR TUNGA INLET:

*no soundings were taken while entering lagoon nor was MLLW curve developed*

Tunga Inlet, a <sup>ck</sup>slak water lagoon at approximately Lat. 55° 58', Long. 133° 14' was surveyed by taking the launch in at a high water slack. A tide staff was placed in the lagoon and periodical readings taken on it while the hydrography was being done. These readings were recorded in a tides record book which is enclosed with this survey.

The readings taken on the staff include two taken when the level was the same in the lagoon as outside. Of these two readings, one was taken when the tide outside was changing rapidly and one when it was changing more slowly. Since there was a longer slack when the tide was changing more slowly, it was decided to use this reading to reference the survey to MLLW on the outside. This slack occurred at 1439 on 27 June at which time the tide outside as recorded by the New Tokeen Tide Gage was 9.50 feet above MLLW. The staff reading in the lagoon at this time was 4.34 feet. From this it is seen that 4.34 feet on the staff in the lagoon is equal to 9.50 feet above MLLW. Using this for a reference point, the following tide reducers were obtained for the time in which the hydrography was accomplished. All hydrography in this lagoon was done on 27 June.

(0900 - 1100)	-1.2 fm.
(1100 - 1145)	-1.1 fm.
(1100 - 1240)	-1.2 fm.
(1240 - 1315)	-1.3 fm.
(1315 - 1340)	-1.4 fm.
(1340 - 1412)	-1.5 fm.
(1412 - end of day)	-1.6 fm.

It is noted that the soundings in this lagoon have been reduced to MLLW outside even though the water in the lagoon never reaches this

low a level. No attempt was made to determine a more applicable datum.

The importance of this lagoon is very minor since it is only accessible at very high water and even then entrance is hazardous.

2. TABULATION OF APPLICABLE DATA:

1. Record of Current Observations, Current Station No. 10 - forwarded 20 May 1957.
2. Field Inspection Report - forwarded 23 Aug. 1957.
3. Tide Data, New Token Tide Gage - forwarded 3 Aug. 1957 and 14 Oct. 1957.
4. Tide Data, Karheen Tide Gage - forwarded 3 Aug. 1957 and 14 Oct. 1957.
5. Geographic Names Report - forwarded 7 Nov. 1957.
6. Coast Pilot Report - forwarded to Washington 6 March 1958.
7. Manuscripts - to be forwarded with this report.
8. Fathometer Phase Comparisons - attached to this report.
9. Index Sheet (See Sheet Layout of 1957 Boat Sheet previously submitted).
10. Leadline Comparison - forwarded with this report.

*M D Christensen*  
M. D. Christensen,  
ENS, C&GS



STATISTICS

SHIP HODGSON

<u>VOL.</u>	<u>DAY</u>	<u>DATE</u>	<u>POS.</u>	<u>NAUT. MI.</u> <u>SOUNDING</u>	<u>H. L.</u>
18	A	8/29/57	17	0.0	17
		Subtotals	17	0.0	17

LAUNCH 95

1	a	6/19/57	202	26.1	--
1&2	b	6/20/57	211	25.2	--
2	c	6/21/57	138	11.7	--
3	d	6/24/57	86	11.5	--
3	e	6/25/57	129	12.6	--
3	f	6/27/57	93	6.1	3
4	g	6/28/57	162	15.8	2
4&5	h	6/29/57	151	17.9	2
5	j	7/1/57	164	16.6	3
5	k	7/2/57	126	17.0	--
6	l	7/13/57	159	10.7	--
6	m	7/14/57	117	8.1	--
6	n	7/16/57	20	2.6	--
7	p	7/18/57	148	9.0	--
7	q	7/20/57	153	17.2	--
8	r	7/23/57	119	11.7	--
8	s	7/24/57	91	8.7	--
8&9	t	7/25/57	152	14.1	--
9	u	7/26/57	204	14.8	--
10	v	7/27/57	125	14.2	--
10	w	7/29/57	137	11.9	--
11	x	7/30/57	210	27.6	--
11&12	y	7/31/57	181	15.6	--
12	z	8/1/57	183	18.0	--
13	aa	8/2/57	166	10.1	--
13	bb	8/30/57	105	9.1	2
14	cc	9/2/57	88	8.7	--
14	dd	9/3/57	138	10.9	--
14&15	ee	9/4/57	123	9.3	--
15	ff	9/5/57	37	3.4	4
15	gg	9/6/57	12	1.1	1
15	hh	9/25/57	20	1.0	3
		Subtotals	4150	398.3	20

LAUNCH 93

16	a	7/16/57	51	7.3	--
16	b	7/17/57	144	17.0	--
16&17	c	7/19/57	122	14.0	--
		Subtotals	317	38.3	0

18	Tagline	7/16/57	63	--	63
		Totals	4547	436.3	100

TIDE NOTE

SURVEY NO. H-8391 (1957)

TIDE STATIONS:

New Tokeen

Lat. 55° 56.2

Long. 133° 19.3

MLLW on staff = 2.5 ft.

KArheen

Lat. 55° 49.8

Long. 133° 19.8

MLLW on staff = 1.4 ft.

GEOGRAPHIC NAME LIST  
PENCILLED ON BOAT SHEET  
SURVEY H-8391(1957)

BROCKMAN ISLAND  
CAP ISLAND  
DEWEYVILLE  
DOT ISLAND  
EL CAPITAN ISLAND  
EL CAPITAN PASSAGE  
FIR ROCK  
GRAVEYARD ISLAND  
HUB ROCK  
KASSAN ISLANDS  
KESKI ISLAND  
KNOB ISLAND  
ORR ISLAND  
PRINCE OF WALES ISLAND  
SAN ISLAND  
SARKAR COVE  
SARKAR POINT  
SCOW ISLAND  
SINGA ISLAND  
SKOOKUMCHUCK  
TEAL ISLAND  
TUNGA INLET  
TUXEKAN ISLAND  
WHITE POINT

PHASE COMPARISON

Three fathometers were used on this survey - No's. 62S, 104, and 106. Phase comparisons were made on these three fathometers, the results of which follow:

Fathometer No. 62S

Comparison on 5/25/57

A	B	Corr.
44.4	44.2	+0.2
44.4	44.2	+0.2
44.5	44.3	+0.2
44.3	44.1	+0.2
44.4	44.0	+0.4
44.3	44.0	+0.3
44.2	44.0	+0.2
44.2	44.0	+0.2
44.1	44.0	+0.1
44.1	44.0	+0.1
	Total	+2.1
	Mean	+0.2 fm.

Comparison on 7/23/57

A	B	Corr.
44.4	44.5	-0.1
44.4	44.5	-0.1
45.0	45.0	0.0
45.4	45.5	-0.1
45.8	46.0	-0.2
46.4	46.5	-0.1
46.8	47.1	-0.3
47.4	47.4	0.0
47.5	47.6	-0.1
47.7	47.7	0.0
	Total	-1.0
	Mean	-0.1 fm.

A - B comparison on 5/25/57 = +0.2 fm.

A - B comparison on 7/23/57 = -0.1 fm.

Phase correction to be applied to "B" scale on Fathometer 62S = 0.0 fm.

Fathometer No. 104

Comparison on 8/17/57

A	B	Corr.
55.0	56.8	-1.8
55.0	56.9	-1.9
55.0	56.8	-1.8
55.0	56.8	-1.8
43.8	45.3	-1.5
43.8	45.2	-1.4
43.8	45.0	-1.2
43.0	44.8	-1.8
	Total	-13.2
	Mean	-1.6 fm.

Correction to be applied to "B" scale on Fathometer 104 = -1.6 fm.

Fathometer No. 106

Comparison on 5/25/57

A	B	Corr.
47.3	47.0	+0.3
47.0	46.0	+1.0
47.0	45.5	+1.5
43.0	42.0	+1.0
42.4	41.7	+0.7
42.4	41.5	+0.9
40.0	39.0	+1.0
39.9	38.9	+1.0
40.2	40.0	+0.2
41.5	40.7	+0.8
	Total	+8.4
	Mean	+0.8 fm.

Phase correction to be applied to "B" scale Fathometer No. 106 = +0.8 fm.

LEADLINE CALIBRATION

NO. 35A (WITH BOTTOM SAMPLER ATTACHED)

<u>RANGE</u>	<u>CORRECTION</u>
0.0 - 2.0 fms.	0.0 fm.
2.1 - 5.6 fm.	-0.1 fm.
5.7 - 9.4 fm.	-0.2 fm.
9.5 - 13.4 fm.	-0.3 fm.
13.5 - 17.8 fm.	-0.4 fm.
17.9 - 23.4 fm.	-0.5 fm.
23.5 - 29.2 fm.	-0.6 fm.
29.3 - 35 fm.	-0.7 fm.

All leadlines were checked as required and found to be correct except No. 35A.

APPROVAL SHEET

HYDROGRAPHIC SURVEY NO. H-8393

The boat sheet and records for this survey were examined daily during the field season. The plotting of the smooth sheet was only partially completed by personnel of the Ship HODGSON. All records and a copy of this report will be turned over to the Seattle District Processing Office for completion. The boat sheet indicates the survey is complete. It is hereby approved pending completion of the smooth sheet.



E. W. Richards,  
LCDR, C&GS  
Chief of Party

PROCESSING OFFICE NOTES H-8391

SMOOTH SHEET

The smooth sheet was hand constructed, the shoreline was transferred, but not inked, and the triangulation stations plotted and checked by personnel of the Ship HODGSON. Topographic and Hydrographic Stations were transferred or plotted by the field party and checked by the Seattle Hydrographic Processing Unit. All inking except station symbols was done by the Processing Unit.

Thirty-one per cent of the positions were plotted by the field party. The balance of the positions and all soundings were plotted by the Processing Unit.

ADEQUACY OF SURVEY

The junction with H-8288 has been compared and found in agreement. The depth curves can be adequately drawn at the junction.

Copies of other adjoining surveys are not available in the Processing Office.

COMPARISON WITH CHART

The survey has been compared with Chart 8171, 5th Ed. Rev. 1/14/57 and many of the charted shoal soundings were found to have even shoaler depths by this survey. See section of Chart attached to this report for comparison.

DANGER AND SHOALS

Three rocks at Lat.  $55^{\circ}57'35''$  and Long.  $133^{\circ}22'18''$  and fourteen rocks within the five fathom curve at HUB ROCK were transferred from the boat sheet and left in pencil. *making completed during verification*

The following tabulation is a list of <sup>some of the</sup> least depths over the survey, most of which are shown on the attached chart section.



LOCATION	DEPTH	POSITION	REMARKS
55°58.12' Lat. 133°20.47' Long.	5.3 fms. ✓	60 m	Least Depth
55°57.99' Lat. 133°19.78' Long.	<del>4.7</del> <sup>4.2</sup> fms. ✓ from H-4330 (4 <sup>1</sup> charted)	60j-61j	"
55°58.27' Lat. 133°19.10' Long.	2.0 fms. ✓	47 m	"
55°57. <sup>78</sup> <del>58</del> ' Lat. 133°17.65' Long.	5.1 fms. ✓	10b-11b (launch 95)	"
55°57.60' Lat. 133°16.90' Long.	6.3 fms. ✓	82 l	"
55°57.68' Lat. 133°16.68' Long.	5.0 fms. ✓	69l-70l	"
55°57.95' Lat. 133°16.10' Long.	7.6 fms. ✓	196a-197a (launch 95) and 1e-2e	"
55°57.84' Lat. 133°15.90' Long.	<del>7.4</del> <sup>7.1</sup> fms. ✓ from H-4330 (7 fms charted)	176a-177a (launch 95)	"
55°57.80' Lat. 133°16.30' Long.	3.7 fms. ✓	5g-6g	"
55°57.95' Lat. 133°19.70' Long.	5.6 fms. ✓	106m-107m	"
55°57.85' Lat. 133°19.73' Long.	6.4 fms. ✓	110m-111m	"
55°57.85' Lat. 133°20.28' Long.	8.1 fms. ✓	87m	"
55°57.58' Lat. 133°20.04' Long.	7.0 fms. ✓	5hh-6hh	"
55°56.40' Lat. 133°22.50' Long.	4.8 fms. ✓	110ee-111ee	"
55°56.13' Lat. 133°22.29' Long.	9.7 fms. ✓	9ff01off	"
55°56.05' Lat. 133°22.00' Long.	3.3 fms. ✓	94ee-95ee	"

LOCATION	DEPTH	POSITION	REMARKS
55°55. <sup>36</sup> <del>36</del> ' Lat. 133°21.91' Long.	3.2 fms. ✓	29u-30u	Least Depth
55°55.79' Lat. 133°21.70' Long.	6. <sup>3</sup> 4 fms. ✓	37ee-38ee	"
55°55.70' Lat. 133°22.02' Long.	10.3 fms. ✓	43ee-44ee	"
55°55.70' Lat. 133°21.75' Long.	8.3 fms.	88v-89v	"
55°55.96' Lat. 133°20.85' Long.	1.7 fms. ✓	106t-107t 13hh-14hh	"
55°56.10' Lat. 133°19.86' Long.	6.9 fms. ✓	7ee-8ee	"
55°55.95' Lat. 133°19.79' Long.	9.5 fms. ✓	15ee-16ee ✓	"
55°55.55' Lat. 133°20.55' Long.	3.4 fms. ✓	21hh ✓	"
55°55.49' Lat. 133°20.30' Long.	7.1 fms. ✓	23hh	"
55°54.65' Lat. 133°21.80' Long.	6.9 fms. ✓	154x-155x	"
55°54.18' Lat. 133°22.17' Long.	3.0 fms. ✓	71dd-72dd	"
<i>See Also 55°54.18'-133°22.26 3.0 fms</i>		<i>58 to 59y</i>	
55°54.34' Lat. 133°20.18' Long.	4.6 fms. ✓	1y-2y	"
55°54.20' Lat. 133°19.92' Long.	4.6 fms. ✓	7dd-8dd	"
55°54.45' Lat. 133°19.60' Long.	4.5 fms. ✓	41dd-42dd	"
55°54.45' Lat. 133°19.22' Long.	9.2 fms. ✓	53dd-54dd	"
55°54.25' Lat. 133°19.71' Long.	9.6 fms. ✓	61dd-62dd	"
55°57.32' Lat. 133°21.22' Long.	3.5 fms. ✓	22a-23a (launch 93)	"

*This list is not complete.*

AIDS TO NAVIGATION

El Capitan Passage Buoy 1 is not plotted on the smooth sheet. It was neither shown on the boat sheet nor mentioned in the sounding records. The co-ordinates given in the field report do not agree with the charted location.

*The buoy location is well-established in Vol 18, page 6*

Respectfully submitted,

*of this survey.*

*William M. Martin*  
WILLIAM M. MARTIN  
SUPERVISORY CARTOGRAPHER

Approved and forwarded

*G. C. Mast*  
G. C. Mast  
Captain, C&GS  
Seattle District Officer

GEOGRAPHIC NAMES

Survey No. H-8391

Name on Survey	8171										K
	A	B	C	D	E	F	G	H			
	On Chart No.	On previous survey No.	On U. S. Quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List			
Brockman Island ✓	x									1	
Cap Island ✓	x									2	
Deweyville	x									3	
Dot Island ✓	x									4	
El Capitan Island ✓	x							x		5	
EL Capitan Passage ✓	x							x		6	
Fir Rock ✓	x									7	
Graveyard Island ✓	x									8	
Hub Rock ✓	x									9	
Kassan Islands ✓	x									10	
Keski Island	x							x		11	
Knob Island ✓	x									12	
North Island ✓	x	<i>Not shown on 5/2.</i>								13	
Orr Island ✓	x									14	
Prince of Wales Island (Title)										15	
San Island ✓	x							x		16	
Sarkar Cove ✓	x									17	
Sarkar Point ✓	x									18	
Singa Island ✓	x							x		19	
Skookumchuck ✓	x									20	
Teal Island ✓	x							x		21	
Token ✓	x									22	
Tunga Inlet ✓	x							x		23	
x <i>RKD 1-25-63</i> Tusekan Island ✓	x									24	
White Point ✓	x									25	
FLAT I	x									26	
										27	

*[Signature]*  
GEOGRAPHIC NAMES SECTION  
19 JULY 1960

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8391....

Records accompanying survey: Smooth sheets <sup>1</sup>.....;  
 boat sheets <sup>1</sup>.....; sounding vols. <sup>19</sup>.....; wire drag vols. ....;  
 Descriptive Reports <sup>1</sup>.....; graphic recorder envelopes <sup>7</sup>.....;  
 special reports, etc. ....  
 .....

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

Number of positions on sheet	.....	4547
Number of positions checked	.....	190
Number of positions revised	.....	5*
Number of soundings revised (refers to depth only)	.....	25
Number of soundings erroneously spaced	.....	5
Number of signals erroneously plotted or transferred	.....	
Topographic details	Time	30
Junctions	Time	40**
Verification of soundings from graphic record	Time	10
Special adjustments	Time	0

Verification by *J. F. Merrill* Total time 536 Date 10-10-62

Reviewed by *J. E. Thomas* Time 153 Date 5/1/63

\* Smooth sheet position not correct

\*\* 8288 had Topo station missplotted and  
 8288 had to be corrected

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

17 August 1960

Division of Charts: R. H. Carstens

Plane of reference approved in  
17 volumes of sounding records for

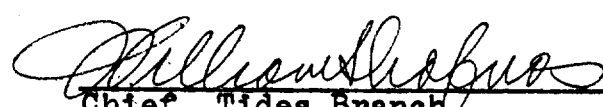
HYDROGRAPHIC SHEET 8391

Locality El Capitan Passage, Alaska

Chief of Party: E. W. Richards (1957)  
Plane of reference is mean lower low water, reading  
2.5 ft. on tide staff at New Token  
15.3 ft. below B. M. 1 (1956)

Height of mean high water above plane of reference is 10.00 ft.

Condition of records satisfactory except as noted below:

  
Chief, Tides Branch  
~~Chief, Tides Branch~~



## Report.

The shoreline originates with the incomplete manuscripts of photogrammetric surveys T-10390, T-10391, T-10392 of 1953-57 and T-10399 of 1953-56 and the reviewed photogrammetric survey T-11100 of 1953.

Differences in triangulation station positions between T-11100 and the present survey position result from triangulation adjustments subsequent to the date of photogrammetric review.

Numerous rock symbols have been carried forward to the smooth sheet of the present survey from prior topographic surveys T-4052 and T-4053 of 1922-23. This is because the contemporary photogrammetric coverage for this area was exposed near a high tide level and the field inspection photographs and notes are lost.

Differences exist between delineation of high water line from the prior topography, which is charted, and the contemporary photogrammetric incomplete manuscripts which have been applied to the smooth sheet of the present survey. Some differences exist in the elevations of rock features between the prior topography and the incomplete photogrammetric surveys. Since the prior survey provides the only field information for features not covered by the present hydrography, this information has been carried forward to the smooth sheet of the present survey. An example is the rock awash at 3/4 tide charted in lat.  $55^{\circ}57.74'$ , long.  $133^{\circ}16.10'$  and the rock awash at 1/3 tide charted in lat.  $55^{\circ}58.11'$ , long.  $133^{\circ}16.26'$  which are shown as high-water features on the contemporary manuscript T-10391. The present hydrographic survey is inadequate to resolve these discrepancies.

The ledge in lat.  $55^{\circ}57.42'$ , long.  $133^{\circ}19.30'$  and the rock awash in lat.  $55^{\circ}57.33'$ , long.  $133^{\circ}19.15'$  shown on the incomplete manuscript of T-10391 are not shown on the smooth sheet of the present survey and should be disregarded. Both features were office-compiled using photographs exposed at a high water level. The features do not appear on lower-water photographs exposed the same day. Adjacent low-water features supported by the present and prior survey hydrographic information are evident on the low-water or photographs. Two islets shown in lat.  $55^{\circ}56.63'$ , long.  $133^{\circ}21.52'$  on incomplete manuscript of T-10390 originate through office interpretation of details on high water photograph 41596. An inspection, during hydrographic review, of overlapping low-water photograph 41532 does not substantiate the features. The islets are not shown on the present survey.



### 3. Hydrography

- A. Depths at the crossings are in good agreement.
- B. The usual depth curves are adequately delineated for charting, except close inshore where the foul character of the bottom sometimes prevented development to the low-water line. In some instances, where development on the present survey is sparse, prior soundings were transferred to the present survey to better define the bottom and least depths. Several shoal indications from regular sounding lines were not investigated further to determine the least depths. Examples are the 5.6- fm. sounding in lat.  $55^{\circ}56.58'$ , long.  $133^{\circ}20.12'$  and the 5.8-fm. sounding in lat.  $55^{\circ}57.6'$ , long.  $133^{\circ}22.15'$ .

### 4. Condition of Survey

The field plotting is adequate. The listing of station names does not appear in the sounding volumes or in the Descriptive Report.

The verifier experienced difficulty in effecting an adequate junction with H-8288 due to a misplotted signal on that survey. Sounding lines on H-8288 were adjusted to bring depths in the junctional area into agreement with present depths.

Many rocks, reefs, and along shore features were applied to the smooth sheet from the boat sheet and from notations which appear on the graphs. In many instances where rocks were recorded in the remarks column in the volumes, the required survey information was not complete. An example is a rock struck by the launch while surveying on line in approximate lat.  $55^{\circ}56.72'$ , long.  $133^{\circ}20.9'$ . The rock apparently lies in depths of 8 to 12 fms. No further information of the feature is known.

The development in the vicinity of a few shoal indications of less than 10 fms is sparse and no prior soundings are available to supplement present depths. Lesser depths may exist.

Several rocks awash have been carried forward from the boat sheet as the source where no information pertaining to them was recorded in the volumes.

### 5. Junctions

Adequate junctions were effected on the north with H-7987 (1957), on the south with H-8288 (1956) and with H-8038 (1953,1957) on the

southeast.

The butt junction made with H-4330 (1923) at the entrance to Sakar Lake is considered adequate for charting.

#### 6. Comparison with Prior Surveys

H-4329 (1923)

H-4330 (1923)

The present survey falls within the area covered by these prior surveys. A comparison with these surveys reveals no significant discrepancies between the prior and present depths. Generally the present survey verifies numerous charted dangers on the prior surveys and develops many others not previously located. Several new shoals and lesser depths on known shoals were found on the present survey, however, in some random instances significant soundings have been carried forward to supplement the present hydrography.

- a. The 2 1/2 fms charted in lat. 55°57.8', long. 133°18.8' from H-4330 was erroneously plotted on that survey. In its corrected position the depth is in harmony with depths of the present survey.
- b. The 0<sup>6</sup> fms charted as a sunken rock in lat. 55°56.72', long. 133°21.93' from H-4329 is the least depth and is carried forward to the smooth sheet of the present survey.

The present survey with the additions previously mentioned and many bottom characteristics carried forward is adequate to supersede the prior surveys within the common area.

#### 7. Comparison with Chart 8171 (latest print date 2/25/63)

##### A. Hydrography

The charted hydrography originates principally with the previously discussed prior surveys supplemented by partial application of critical information from the boat sheet (Bp 55713) and the unverified smooth sheet of the present survey.

1. The sunken rock rep. charted in lat. 55°56.25', long. 133°23.0' from CL 624/53 was adequately investigated and is considered disproved in its charted position.
2. A rock awash in lat. 55°56.39', long. 133°21.75', originating

with advanced photogrammetric information was charted through the unverified smooth sheet. The rock was subsequently discredited during photogrammetric compilation and removed from the manuscript of T-10390.

The present survey supersedes the charted information in the common area.

B. Aids to Navigation

The position of Hub Rock Marker charted in lat.  $55^{\circ}56.51'$ , long.  $133^{\circ}17.8'$  is from CL 221/58 and is subsequent to present survey information.

The El Capitan Passage Buoy 1 in lat.  $55^{\circ}55.67'$ , long.  $133^{\circ}18.02'$  plots 70 meters southward of its charted position. The charted position adequately marks the feature intended.

8. Compliance with Instructions

This survey generally complies with the project instructions.


9. Additional Field Work

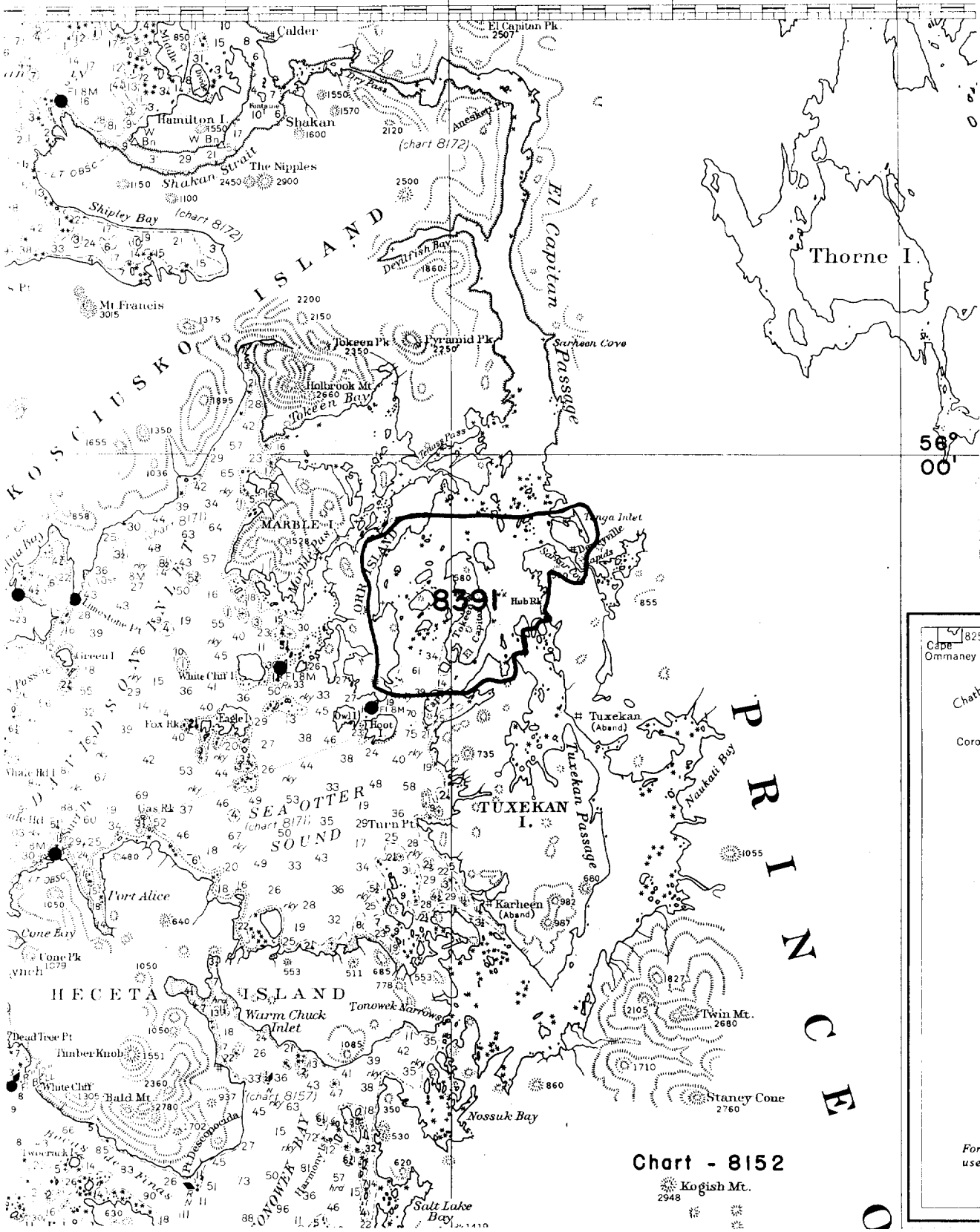
This survey is considered basic for charting.

The rock plotted in lat.  $55^{\circ}56.73'$ , long.  $133^{\circ}20.90'$  originates with present survey information which is incomplete. The rock should be charted with notation "Position Doubtful" until investigated and either verified or disproved.

Examined and Approved:

  
Chief, Marine Chart Division

  
Associate Director,  
Hydrography and Oceanography



825	Chart
Ommaney	Coro
For use	

Chart - 8152

Kogish Mt. 2948

