

7068

7068

Diary 9179

Form 504

U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. DE-05145 Office No. H-7068

LOCALITY

State ALASKA - ALEUTIANS

General locality ATTU ISLAND

Locality Approaches to Chichagof Harbor

194 5

CHIEF OF PARTY

L. C. Wilder

LIBRARY & ARCHIVES

DATE DEC 21 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. H7068

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. DE 05145

REGISTER NO.

State Alaska - Aleutians ✓

General locality Attu Island ✓

Locality Approaches to Chichagof Harbor ✓

Scale 1:5,000 Date of survey 21 July - 2 Aug., 1945 ✓

Vessel DERICKSON

Chief of Party L. C. Wilder ✓

Surveyed by L.C. Wilder, John Laskowski, J.E. Waugh ✓

Protracted by P. M. Fisher

Soundings penciled by P. M. Fisher

Soundings in fathoms ~~Feet~~ Fathoms AND TENTHS ✓

Plane of reference MLLW ✓

Subdivision of wire dragged areas by _____

Inked by Herbert W. Burgoyne

Verified by Herbert W. Burgoyne

Instructions dated 16 April, 1943

Remarks: Smooth Sheet and Plotting by the
Seattle Processing Office

Sounded with Recording Fathometer

925195

DESCRIPTIVE REPORT

To Accompany

Hydrographic Sheet 7068 (Field No. DE-05145)

Scale 1:5000

Approaches to Chichagof Harbor, Attu Island, Alaska

L. C. Wilder, Chief of Party

U.S.C. & G.S.S. DERICKSON

1945

PROJECT: This hydrography was accomplished under Project CS-218, instructions dated 16 April 1943. Supplemental instructions were dated 1 February 1944. Instructions by Capt. F. B. T. Siens dated 7 June 1945 and 6 July 1945, Project 30.

SURVEY LIMITS AND DATES: The locality of this work is the approaches to Chichagof Harbor, including the channels among the islands off that harbor. The following are the adjoining hydrographic sheets: on the south, sheet No. DE-025245, (7067) scale 1:2500, USC&GSS DERICKSON, 1945; to the west and northwest, sheet No. H-7014, scale 1:10000, USC&GSS EXPLORER, 1944; to the north and east, sheet No. ⁴⁶⁸⁷DE-1145, scale 1:10000, USC&GSS DERICKSON, 1945. Dates of the survey: 21 July to 2 August 1945.

VESSELS AND EQUIPMENT: The DERICKSON'S 26-foot motorsailer and the EXPLORER'S 30-foot Launch No. 3 were used. All work was done by personnel from the Ship DERICKSON. The DERICKSON'S launch was in charge of L. C. Wilder and the second launch in charge of John Laskowski. Both launches were equipped with SOGA Fathometers. The turning radius of the smaller launch is 10 to 15 feet; that of the larger launch 15 to 25 feet.

TIDE AND CURRENT STATIONS: A portable automatic tide gage was located in Chichagof Harbor tended by Army personnel. No current stations were occupied.

CONTROL STATIONS: Triangulation stations used for control of the graphic control sheet were 1944 stations of the Ships EXPLORER and SURVEYOR and 1943 stations of the U. S. Engineers. The topographic stations were located on Sheet DE-E-45, scale 1:5000. T-7003 (1945)

SHORELINE AND TOPOGRAPHY: Very little shoreline was run in on the topographic sheet as photographs were available. These photographs were field inspected by personnel from the Ship DERICKSON in 1945. (Not compiled as yet)

See T-8474 (1947)

SOUNDINGS: No unusual methods of depth measurement were used. Soundings were by 808A Fathometer with bar checks three times per day. Soundings were read in fathoms and tenths. Soundings through the channel into Chichagof Harbor west of Kennon Island were read in feet as the channel is very shoal in places.

The entire area of the hydrography, including kelp patches and that adjacent to the shoreline, was searched at or near low water to make certain that no offlying rocks or reefs were missed between lines of hydrography.

All kelp patches and shoals, except those of very minor importance because of their location with respect to possible channels or tracks which even small craft might follow, were searched carefully with fathometer and handlead. It is believed that all dangers to small and large craft were located except possibly in the very thick kelp patch extending a distance of 150 yards south of the south end of the Cooper Islands. This was searched on several occasions but kelp was very thick and it cannot be guaranteed that a danger was not missed.

CONTROL OF HYDROGRAPHY: Usual three point fixes. For the most part each launch had an officer in charge plotting and two anglemen. Both launches were operated under slow bells for a number of reasons, this enhancing the accuracy of the work.

ADEQUACY OF SURVEY: This is considered a particularly thorough survey and about the only means to improve it would have been to remove the kelp or spend days in these kelp patches. In my estimation the requirement for sounding in kelp patches has been tightened to such extent in recent years that some thought or experimentation should be given to removal of the patches or a better means of sounding therein developed. Amen.

COMPARISON WITH PRIOR SURVEYS: This survey joins and overlaps Hydrographic Survey H-7014, scale 1:10000, 1944. Agreement between the two surveys appears satisfactory.

COMPARISON WITH CHART: The area of this survey covered by Chart 9126 appears little better than reconnaissance and no suitable comparison can be made. On the 2½ fathom spot charted about midway between Middle Rocks and Pisa Point, a least depth of 3.5 fathoms was obtained in 1945, after a thorough search.

DANGERS AND SHOALS: The following shoals and dangers should be checked against the smooth sheet after completion:

Area	Latitude N.			Longitude E.		
	°	'	"	°	'	"
Foul area, heavy kelp patch (Rks awash)	52	57	06	173	15	17
1.2 ⁵ fathoms, edge of kelp		57	01		15	32
+6 2.2 ⁵ fathoms, kelp		56	59		15	36 ⁴

Area	Latitude N.	Longitude E.
	° ' "	° ' "
1.3 3.0 ⁵ fathoms, kelp	52-57-04 ⁵	173-15-44 ² ✓
1.0 0.9 fathoms, kelp, rocky	57-03	16-00
Rock bare, $\frac{1}{2}$ tide	56-55	15-28 ✓
1.0 Rock, 0.8 fathoms	56-50	15-25 ✓
0.5 f ^m Rock awash-MLLW	56-42	15-20 ✓ <i>Plot + on tower</i>
1.8 2.4 fathoms, kelp, rocky	56-28	15-59 ✓ <i>4700</i>
3.5 ⁷ fathoms, kelp, rocky	56-31	16-08 ✓ <i>5000</i>
4.7 4.5 fathoms, kelp, rocky	56-46	16-08 ✓ <i>42</i>

COAST PILOT NOTES: These notes will be submitted with the total notes for the season. ✓

AIDS TO NAVIGATION: The only aid to navigation on this sheet is a black spherical buoy (which should be left on the starboard hand in entering Chichagof Harbor) located in Latitude 52-56-23 and Longitude 173-15-52. This is a temporary buoy maintained by the War Department. ✓

LANDMARKS FOR CHARTS: These will be submitted on Form 567 for the season's work. The only landmarks which should be charted are Pisa Tower and the observation tower $\frac{1}{4}$ mile west of Kennon Island. ✓

GEOGRAPHIC NAMES: The only known geographic names are those already charted.

L. C. Wilder

L. C. Wilder, Lt. Comdr.

John Laskowski

John Laskowski, Lt. Comdr.

Corrections made from smooth sheet plotting - E.C.S.

STATISTICS FOR HYDROGRAPHIC SURVEY H-7068 (DE-05145)

LAUNCH NO. 3

Vol. No.	Day Letter	Date 1945	No. Sdgs. H.L.	No. Positions	No. of Statute Miles Sdgs.
1	a	21 July	--	210	15.5
1	b	23 July	3	136	7.1
2	c	27 July	--	161	11.1
2	d	28 July	18	94	5.8
TOTALS			21	601	39.5

MOTORSAILER

Vol. No.	Day Letter	Date 1945	No. Sdgs. H.L.	No. Positions	No. of Statute Miles Sdgs.
3	a	21 July	4	143	12.0
3	b	25 July	6	191	10.2
4	c	2 Aug.	31	72	5.2
TOTALS			41	406	27.4
TOTAL FOR SHEET			62	1007	66.9

Sounding with Type 808A Depth Recorder. Continuous profile on all lines.

Area covered by survey = 1.02 sq. statute miles.

BAR CHECK CORRECTIONS - SHEET NO. DE-05145

Date	21 July		25 July		2 Aug.		Date
Day	a		b		c		Day
Corrn.	From	To	From	To	From	To	Corrn.
Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.	Ft.
+ 1.2			3.2	6.5			+ 1.2
+ 1.0	4.0	6.0	6.6	9.8			+ 1.0
+ 0.8	6.1	8.2	9.9	13.3			+ 0.8
+ 0.6	8.3	11.0	13.4	17.3	3.6	4.4	+ 0.6
+ 0.4	11.1	14.8	17.4	21.0	4.5	5.2	+ 0.4
+ 0.2	14.9	19.0	21.1	25.0	5.3	8.2	+ 0.2
+ 0.4					8.3	13.1	+ 0.4
+ 0.2					13.2	17.5	+ 0.2
0.0	19.1	23.0	25.1	28.6	17.6		0.0
- 0.2	23.1	27.1	28.7	32.3			- 0.2
- 0.4	27.2	31.3	32.4				- 0.4
- 0.6	31.4						- 0.6

VELOCITY CORRECTIONS - 20 JULY TO 8 AUGUST 1945

Ship
SQA - Velocity of 520 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0.0	5.0
- 0.1	5.1	12.5
- 0.2	12.6	19.0
- 0.3	19.1	25.0
- 0.4	25.1	31.0
- 0.6	31.1	42.0
- 0.8	42.1	52.0
- 1.0	52.9	63.0
- 1.2	63.1	73.4
- 1.4	73.5	83.4
- 1.6	83.5	93.4
- 1.8	93.5	103.5
- 2.0	103.6	113.6
- 2.5	113.5	122
- 3.0	123	---

Launches
SQA - Velocity of 520 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0.0	5.0
- 0.1	5.1	12.5
- 0.2	12.6	19.0
- 0.3	19.1	25.1
- 0.4	25.2	30.8
- 0.6	30.9	42.0
- 0.8	42.1	52.0
- 1.0	52.1	---

Ship
SBO - Velocity of 800 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
0.0	0	40
+ 0.5	41	143
+ 1.0	144	233
+ 1.5	236	300
+ 2.0	301	350
+ 2.5	351	400
+ 3.0	401	440
+ 3.5	441	480
+ 4.0	481	520
+ 4.5	521	560
+ 5.0	561	590
+ 5.5	591	630
+ 6.0	631	660
+ 6.5	661	700
+ 7.0	701	730
+ 7.5	731	770
+ 8.0	771	805
+ 8.5	806	839
+ 9.0	840	865
+ 9.5	866	900
+ 10.0	901	925
+ 10.5	926	955

Ship (Cont.)
SBO - Velocity of 800 fms/sec.

Corrn. Fms.	From Fms.	To Fms.
+ 11.0	956	980
+ 11.5	981	1010
+ 12.0	1011	1038
+ 12.5	1039	1065
+ 13.0	1066	1090
+ 13.5	1091	1115
+ 14.0	1116	1138
+ 14.5	1139	1160
+ 15.0	1161	1185
+ 15.5	1186	---

DE 05145

Chichagof Harbor

Attu Island

TIDE NOTE

A portable automatic tide gage was maintained at the U.S.A.A.F. pier in Chichagof Harbor; Latitude $52^{\circ}-55^{\circ}9'$ N. Longitude $173^{\circ}-14^{\circ}2^{\frac{1}{4}}'$ E. The observed tides at this station were used for the reduction of all soundings taken on this sheet. Several days' tides are missing during the series. When sounding, during these periods, the tide staff was read and these heights have been used in lieu of the marigrams. They are recorded in the sounding ^{volumes} for Sheet No. DE-025245. The height of mean lower low water and mean high water correspond to readings of 3.3 feet and 6.9 feet, respectively, on the tide staff. (See Director's letter of 24 August 1945, reference 36-mlh). No time or height corrections have been applied to the observed tides.

APPROVAL SHEET

1 November 1945

The Records and boat sheet for Survey No. DE-05145 are approved.

The Records were examined frequently in the field, generally daily. The Chief of Party was in charge of one of the launches on the survey.

The survey is considered complete and adequate. The descriptive report covers all pertinent details.



L. C. Wilder,
Chief of Party.

H-6875
Sheet DE 1145-

H-6875
There are on DE 1145 several sounding lines which overlap
DE 05145^{H(7068)} in the area between Gibson Island and Kennon Island. The sheet
is not available at this time. The field party planned to survey the
outer part of Chichagof Harbor on a 1:10,000 scale, sheet DE 1145, and
ran a few lines; then increased the scale of the sheet to 1:5,000 and
made the survey on DE 05145. (H 7068)

Respectfully submitted,

Edgar E. Smith

E. E. Smith
Cartographic Engineer
Seattle Processing Office

Approved and Forwarded,

F. B. T. Siems

F. B. T. Siems
Officer in Charge,
Seattle Processing Office.

Chichagof Harbor - Attu Island

Seattle Processing Office Notes

Datum-

USN GANNET 1934, assuming station CHIC 1943 as a recovery of the Navy astronomical station. It is now known that this assumption is not correct, but the datum of all field sheets for the new work, beginning with the 1943 season, are based upon it. CHIC 1943 about 50-60 meters west of Astronomic Pier.

Shoreline-

Topographic signals were transferred from Sheet DE-E-45. All topographic detail shown on that sheet was transferred and is shown on the smooth sheet in black ink. In addition to the features shown on Sheet DE-E-45, the following shoreline is also shown on the smooth sheet in black ink:

^{7005 b}
From DE-C-45: The shoreline from a point 90 meters south of signal ZED to signal SIS, and from signal RED to a point east of signal AMY, also the islands in the vicinity of signal USE. Reduced from scale 1:2,500 by pantograph.

From DE-D-45: The shoreline and offlying features in the vicinity of signal PISA TOWER 1945. Enlarged from scale 1:10,000 by pantograph. See comments under "Air Photographs", page 3, in Desc. Report for this topo sheet.

Rocks-

All encircled rocks in pencil are separately located by the hydro party. Other pencilled rocks are from the Boat Sheet. The field party has examined these details on the smooth sheet.

Air photographs of this area, including Gibson Island have been inspected in the field and submitted to the Washington Office. It is suggested that they be examined for further details in the foul areas.

Photos not compiled - 5/20/46

Crossings-

No bad crossings are noted. The bottom is extremely irregular, with numerous offlying rocks and kelp patches.

DE 05145

Chichagof Harbor - Attu I.

Geographic Names Pencilled on Smooth Sheet

Attu I.

Bering Sea

Chichagof Hbr.

Kennon I.

Gibson Islands

Cooper Islands

Middle Rocks

Pisa Tower - leaning rock

Inner Rocks

Channel west of Kennon Island-

This small boat channel appears to have a controlling depth of 7 feet which is in the southern approach. For this channel only, the boat sheet soundings are in feet.

chart 1 p 30000

Landmarks-

Observation tower a quarter of a mile west of Kennon Island. This identical with triangulation station TOWER 1944 and it is described as "a small observation building with a square base and cylindrical super-structure with a cone shaped top. Approx. elevation above HWM 220 feet." This is taken to be height of ground, as it is charted on 9127 above the 200 ft. contour. It was also shown on the preliminary chart issued in the field. This is believed to be a fire control tower, and it is suggested that the Commanding General, Alaskan Dept., A.P.O. 942, be consulted if the use of the object as a landmark is proposed to be continued on de-classified or restricted charts.

should use ?

Signal ORA-

This signal at the north edge of the sounded area was located by three good planetable cuts on DE-E-45. It is a small rock 5 feet high. On H-7014, 20 meters north of this position is a rock awash which is five feet above M.L.W. With the small range of tide, such a rock would show at all tides and could not have been missed by the 1945 party which found a ten fathom sounding at that place. It is believed that the two rocks are identical; that the position on DE 05145 is correct; that it is two to five feet above M.H.W. *Rock on H-7014 was estimated 15m. from line, uncovered 4 1/2 ft at 1/2 ft tide. Plotted rock awash at topo. position, awash at M.H.W, rejecting Hydro. position.*

above H-7014

Chart (3)

Comparison with H-7014-

In the common area south of Cooper Island, the two sheets give substantially the same information. There are small differences as may be expected in broken bottom.

Latitude	Longitude	H-7068 DE 05145	H-7014	
52° 57'10"	175° 15' 15"	1 fm.	1.3 fm.	Adjusted. Fathograms re-sounded.
52 57'07"	175 15' 23"	5.9 fm.	5.0 fm.	
52 56.59	175 15 34	1.6 fm. 3.4	1.2 fm.	

Other differences are of this order.

GEOGRAPHIC NAMES

Survey No. **H7068**

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
	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			
<u>Attu Island</u>									USFB		1
<u>Chichagof Hbr.</u>				(location of tide staff)							2
<u>Bering Sea</u>									USFB		3
<u>Kennon Island</u>											4
<u>Cooper Islands</u>											5
<u>Gibson Islands</u>											6
<u>Middle Rocks</u>											7
<u>INNER ROCKS</u>											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

~~REMOVED~~
L. Heck on 5/21/46

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO **H7068**..

Records accompanying survey:

Boat sheets .1...; sounding vols. 4....; wire drag vols.;
 bomb vols.; graphic recorder rolls .2...;
 1 tracing from Boat Sheet, & ~~1~~ ¹ ~~overlay tracing~~ ^{in file with S.F.D.}
 special reports, etc.
 1 envelope of Computation of Velocity Corrections & Instrumental Error
for Attu Island, S. S. Derickson, L. C. Wilder, 1945 (combined with
 H-7067)

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

Number of positions on sheet		.1007..
Number of positions checked		..89...
Number of positions revised		...1...
Number of soundings revised (refers to depth only)		..20..
Number of soundings erroneously spaced		...0...
Number of signals erroneously plotted or transferred		...0...
Topographic details	Time	...4...
Junctions	Time	...44...
Verification of soundings from graphic record	Time	...24...

Verification by *Herbert W. Burgoyne*... Total time ..173.. Date 5/15/46..

Reviewed by *J. F. Jordan*..... Time 26... Date 5/21/46..

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 7068

FIELD NO. DE-05145

Alaska-Aleutians, Attu Island, Approaches to Chichagof Harbor
Surveyed in July and August, 1945
Project No. CS-218

Scale 1:5,000

Soundings:

808A Fathometer
Lead line

Control:

Three-point fixes on shore
signals

Chief of Party - L. C. Wilder
Surveyed by - L. C. Wilder, J. Laskowski and J. E. Waugh
Protracted by - P. M. Fisher
Soundings plotted by - P. M. Fisher
Verified and inked by - H. W. Burgoyne
Reviewed by - G. F. Jordan, May 21, 1946
Inspected by - H. W. Murray

1. Shoreline and Control

The shoreline and control are from graphic control surveys T-7003, T-7004, T-7005 of 1945 and T-6972b (1944). The pencilled shoreline is from a U. S. Navy survey (H-6926) as shown on chart 9126.

*The shoreline in the vicinity of (Nip) was transferred from T-8476
The shoreline of Cooper Islands, Gibson Islands, Kennon Island, Inner Rocks,
Middle Rocks and off shore detail was revised to agree with T-8476
All transfers & revisions were enlarged from T-8476 1:10000 by projector.
1 depth curve was changed to agree with change made on H-6875
1 sounding was changed to keep it the same distance off-shore from the revised
shoreline of Cooper Islands
3-31-49
EWH*

Field inspected air photos of the area have not been compiled.

2. Sounding-line Crossings

Satisfactory.

3. Depth Curves and Bottom Configuration

Depth curves on shoals and in deeper areas could be satisfactorily drawn. Complete inshore curves are prevented by the impracticability of echo sounding in dense kelp.

The bottom is very irregular and has many submerged reefs. Dense kelp abounds in the area.

4. Junctions

Satisfactory junctions are effected on the southwest with H-7067 (1945) and on the north with H-7014 (1944). The large overlap with H-7014 necessitated considerable re-scanning of fathograms to effect agreement of depths and depth curves. The survey on the east, H-6875 (1945), is not verified.

5. Comparison with Prior Surveys

There are no prior surveys by this Bureau in this area. A 1934 survey by the U. S. Navy (H-6926) is considered in paragraph 6, below.

6. Comparison with Chart 9126 (Latest print date June 6, 1944)
Chart 9127 (Latest print date April 28, 1945)

a. Hydrography

These charts are compiled from the Navy survey, H-6926 (1934), with the addition of soundings from H-7014 (1944) on chart 9127. Outside the entrance to Chichagof Harbor, the Navy survey is of a reconnaissance nature. The agreement with the present survey is satisfactory.

(1) The rock awash and southerly sunken rock (chart 9126) falling near 10-fm. depths on the present survey at lat. 52° 57' 07", long. 173° 15' 39" should be disregarded. However, the northerly sunken rock should be retained, inasmuch as investigation of these rocks is not indicated on present surveys. These rocks, or reefs, originate with an 1855 Navy survey (H.O. Chart No. 55).

(2) The following charted rocks were transferred to the boat sheet by the field party and were not investigated. They originate with the 1934 Navy survey (H-6926) and should be retained. (The following positions are on the datum of the present survey).

Lat. 52° 56' 51.0",	long. 173° 15' 33.5"	rock awash	Disregard rocks on basis F2476 (1947) G. F. J. 9/18/49
Lat. 52° 56' 50.5",	long. 173° 15' 40.0"	" "	
Lat. 52° 56' 37.5",	long. 173° 15' 44.5"	sunken rock	
Lat. 52° 56' 36.5",	long. 173° 15' 47.0"	" "	
Lat. 52° 56' 35.0",	long. 173° 15' 58.5"	" "	

(3) The charted rocks awash falling on a shoal with least depth of 3.5 fm. on the present survey at lat. 52° 56' 33", long. 173° 16' 08", should be disregarded.

The 3.5 fm. is the result of close developemtn and drift sounding. The rocks awash, originating with an 1855 Navy survey (H.O. Chart No. 55), are considered to have misrepresented a heavy kelp patch.

No, was not taken from 9127, Nov 17 1947
 not carried forward, the word "should"

(4) Sunken rocks charted southwest from the rocks awash noted in the paragraph above should be disregarded. The rocks originate with the 1934 Navy survey (H-6926) and are considered to be a general representation of kelp and foul area. Several rocks awash were located and least depths were obtained on submerged reefs on the present survey.

(5) The charted 2.1-fm. sounding falling in 3.7-fm. depths on the present survey at lat. 52° 56' 30", long. 173° 16' 08", should be disregarded. Present development is adequate to supersede the 1855 Navy survey which is the source of the sounding.

*North of
Plan
section
of new
chart.* (6) The charted 4.1-fm. sounding falling on a 6.1-fm. shoal on the present survey at lat. 52° 56' 50.5", long. 173° 15' 52.0", should be retained. This sounding originates with the 1934 Navy survey (H-6926). Close development was accomplished on the present survey, but there was no detached investigation over the 6.1-fm. sounding.

b. Aids to Navigation

No aids to navigation are charted in this area. Three temporary buoys were located on the present survey.

7. Condition of Survey

- a. The sounding records and descriptive report are complete in all detail; the smooth plotting is very good.
- b. The survey was very well executed and included a large amount of close development and detached investigation which was accomplished in a difficult kelp-laden area. However, the following shoals were not investigated for least depth.

- North of
Plan*
- (1) Lat. 52° 57' 09.5", long. 173° 15' 14.5" - 1-fm. recording blends with initial in kelp area.
 - (2) Lat. 52° 57' 05.5", long. 173° 15' 42.5" - 1.3-fm. recording appears as a side echo in 8-fm. depths.
 - (3) Lat. 52° 57' 20", long. 173° 15' 30" - shoal area with undeveloped depths of 2.3 to 4.1 fms., 200 meters off point of island in 20-fm. depths.

- c. The smooth sheet sent to the Washington Office was out to a size of 21 x 24 inches. To facilitate handling, it is suggested that the maximum size should be not less than 36 x 36 inches.

8. Compliance with Project Instructions

Satisfactory.

MINIMUM END

9. Additional Field Work Recommended

Investigation of shoal areas referred to under (2) and (3) in paragraph 7 above is desirable.

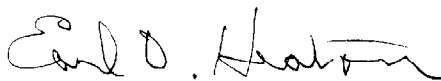
Examined and approved:



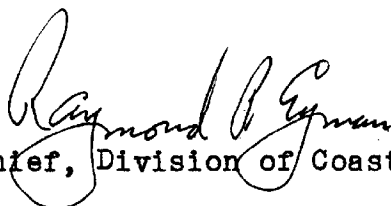
Chief, Nautical Chart Branch



Chief, Chart Division



Chief, Section of Hydrography



Chief, Division of Coastal Surveys

2400

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

22 January 1946

~~Division of Hydrography and Topography:~~

Division of Charts: Attention: H. W. MURRAY

Plane of reference approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 7068

Locality Approaches to Chichagof Harbor, Attu Island, Aleutian Islands, Alaska

Chief of Party: L. C. Wilder in 1945

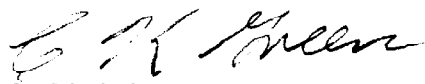
Plane of reference is mean lower low water, reading

3.3 ft. on tide staff at Chichagof Harbor

12.8 ft. below B. M. 1

Height of mean high water above plane of reference is 3.6 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

