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Form 504 U. S. COAST AND GEODETIC SURVEY DEPARTMENT OF COMMERCE  <b>DESCRIPTIVE REPORT</b>	
Type of Survey <u>Hydrographic</u>	
Field No. <u>1112-3</u>	Office No. <b>6947</b>
LOCALITY	
S. E. State <u>ALASKA</u>	
General locality <u>Sitka Sound</u>	
Locality <del>East of Biorke Island</del> <u>Legma Island to Peisar Island</u> <del>to Baronof Island</del>	
<u>1943</u>	
CHIEF OF PARTY  <u>Charles Pierce</u>	
LIBRARY & ARCHIVES	
DATE <u>DEC 9 1944</u>	

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO. H6947

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. 1442-5

REGISTER NO. H-6947

State S. E. ALASKA

General locality Sitka Sound

Locality Legma Island to Peisar Island

~~East of Sitka Island to Baranof Island~~

Scale 1:10,000 Date of survey June, 1942

June, July, 1943

Vessel M. V. WESTDAHL and 30 foot motor sailer No. 88.

Chief of Party Charles Pierce

Surveyed by Charles Pierce and Curtis LeFever

Protracted by R. M. Sylar

Soundings penciled by R. M. Sylar

Soundings in fathoms ~~1000~~ Fathoms and Tenths

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by A. R. STIRN

Verified by A. R. STIRN

Instructions dated February 14, 1940

Remarks: Smooth Sheet and Plotting by the

Seattle Processing Office.

Descriptive Report to Accompany  
Hydrographic Survey H-6947 (1942-43), (Field No. 1442-43)  
S. E. Alaska; Sitka Sound; Legma Island to Peisar Island  
Scale 1:10,000

Charles Pierce

Comd'g. M. V. WESTDAHL

Project - This survey is part of Project No. CS-247. Original instructions were dated Feb. 14, 1940; supplemental instructions, June 10, 1941, Feb. 5, June 3 and August 5, 1942.

Survey Limits - The survey covers that part of Sitka Sound between Borka Channel and Hot Springs Bay on the south and Peisar Island on the north. Two days hydrography was accomplished in June, 1942; the remainder was done in June and July of 1943. Satisfactory junctions were made with H-4554 (1925) on the south and west, H-6655 (1940-41) on the west and with this party's H-6948 (1942-43) on the north.

Vessel and Equipment - Units employed on the survey were the M. V. WESTDAHL using a Dorsey III fathometer and Launch 88 equipped with an 808A depth recorder.

Control - Basic triangulation is that of A. M. Sobieralski, 1925, and C. Pierce, 1942-43.

Topographic signals were located on aluminum mounted sheets T-6889b (1942-43) and T-6934 (1943). Cuts for location of hydrographic signals are recorded in the sounding volumes.

Shoreline and Topography - Shoreline of Peisar Island and parts of Baranof Island east of Viesokoi Rock were available from T-6889b (1942-43) and T-6934 (1943). Bromide copies of topographic maps T-8480 and T-8481, compiled early in 1943 from photographs which had not been field-inspected, were not received by this party until shortly before leaving Sitka Sound to take up another project. Consequently, on the boat sheets, shoreline and rock detail westward and northward of Hot Springs Bay were transferred from T-4179 (1925-26). Practically all of the offlying dangers (sunken rocks particularly) shown on T-4179 in the area of the present survey were investigated by this party at minus tides and relocated by sextant fixes on new control.

Dangers and Shoals.

Lat. 56° 52.35', Long. 135° 26.61'--A shoaling to 7½ fathoms about 0.6 mile southwest of the south end of Peisar Island. Another head with least found depth of 8 fathoms lies 200 meters ENE.

Lat. 56° 52.93', Long. 135° 26.60'-- A shoaling to 5 4/6 fathoms about 250 meters off Peisar Island. This was not drift sounded.

Lat. 56° 52.75', Long. 135° 26.50'--A shoaling to 6½ fathoms about 250 meters outside rocks offlying Peisar Island.

Lat. 56° 52.62', Long. 135° 25.40'-- A pinnacle with least found

depth of  $8\frac{1}{4}$  fathoms near middle of passage between Peisar Island and Viesokoi Rock. This was drift sounded with the fathometer.

Lat.  $56^{\circ} 52.23'$ , Long.  $135^{\circ} 25.20'$ --A pinnacle rock, covered  $1\frac{5}{6}$  fathoms, about 200 meters WNW of Viesokoi Rock. This was investigated by drift sounding with the hand lead. Seas were not breaking on the rock but there was noticeable humping in moderate swell. Another pinnacle, covered  $3\frac{5}{6}$  fathoms, was found 100 meters north. This also was drift-sounded with the hand lead. No breaking or humping were observed.

Lat.  $56^{\circ} 51.50'$ , Long.  $135^{\circ} 23.54'$ --Sunken rock charted with note "seldom breaks" was investigated with the hand lead. Least depth found was  $1\frac{1}{6}$  fathoms.

Lat.  $56^{\circ} 51.70'$ , Long.  $135^{\circ} 23.95'$ --Sunken rock charted with note "seldom breaks" was investigated with the hand lead. Least depth found was  $1\frac{5}{6}$  fathoms. About 350 meters northwest, two sunken rocks charted with the same note were determined to be one rock baring 3 feet and another covered 5 feet at MLLW.

Lat.  $56^{\circ} 51.50'$ , Long.  $135^{\circ} 27.70'$ --A charted depth of 12 fathoms was investigated. Least depth found after considerable drifting was 11 fathoms. About 300 meters southwest is another pinnacle with least found depth of 13 fathoms where the chart shows 18 fathoms.

Lat.  $56^{\circ} 50.27'$ , Long.  $135^{\circ} 27.17'$ --Thorough search was made for the two charted sunken rocks. Heavy kelp as shown on chart is correct but least depth found was  $4\frac{1}{2}$  fathoms.

Lat.  $56^{\circ} 50.27'$ , Long.  $135^{\circ} 26.55'$ --Drift sounding for charted sunken rock resulted in least found depth of 2 fathoms about 100 meters southeast of charted position.

Lat.  $56^{\circ} 50.25'$ , Long.  $135^{\circ} 23.22'$ --Uncharted rock, covered  $1\frac{1}{6}$  fathoms, with top plainly visible at time of investigation. It is 90 meters north of a prominent bare rock and can be avoided by favoring the Kolosh Island side of the passage when entering Hot Springs Bay on the Coast Pilot's recommended course of  $93^{\circ}$  true.

Lat.  $56^{\circ} 50.1'$  Long.  $135^{\circ} 23.2'$ --Charted  $1\frac{1}{2}$  fathom shoal was investigated with the hand lead. Least depth found was  $1\frac{2}{6}$  fathoms over plainly visible rock.

Lat.  $56^{\circ} 50.48'$ , Long.  $135^{\circ} 22.92'$ --An uncharted rock, awash at MLLW, was discovered in the narrow approach from the north to Hot Springs Bay.

Coast Pilot Information.--The area east of Viesokoi Rock and southward to Hot Springs Bay is studded with rocks, sunken, awash or bare at high water. There are clear channels through these dangers-the mail boat from Sitka to Goddard regularly passes east of Viesokoi Rock and Kolosh Island-but they are not recommended for strangers because of the great number of rocks and their changing appearance between high and low waters.

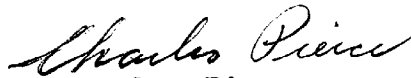
The small bay in Lat. 56° 52.8', Long. 135° 22.8 affords protection from the prevailing swell from Sitka Sound but it is very constricted except for boats under 50 feet in length. The entrance is clear and there is good water in the bight behind the island on the south side. The WESTDAHL (80 feet in length) made the entrance and anchored without particular difficulty, but only about 60 yards swinging radius is available for a five fathom depth.

Tides--Tide gages operated in 1941 at Symonds Bay, Biorka Island and Tava Island indicate that time and range for this area differ little from those of Sitka. The primary gage at Sitka furnished data for reduction of all soundings on this survey.

One serial temperature observation in 1942 and two in 1943 provide data for correcting all fathometer soundings on the survey.

Statistics--

Area in square statute miles-----	15
Statute miles of sounding lines-----	332
Number of soundings recorded-----	14200
Number of positions-----	2160



Charles Pierce,  
Lt. Comdr., U.S.C.&G. Survey  
C.O., M.V. WESTDAHL

H-6947

TIDAL NOTE

Tide gages operated in this area during 1941 at Symonds Bay, Biorka Island, and Tava Island indicate that time and range for this area differ only slightly from that of Sitka. The primary tide gage at Sitka furnished data for reduction of all soundings on this sheet.

List of Signals

AD	T-6934	GAT	T-6889b	RAT	T-6889b
APE	Vol. 1	GEM	T-6934	ROB	T-6889b
ARM	T-6934	GUM	T-6889b	RUDE	T-6889b
ART	T-6934	GUN	T-6889b		
AXE	T-6889b			SAL	T-6934
		HAM	T-6889b	SAR	T-6889b
BALD	1943	HAP	T-6934	SI	T-6934
BAN	T-6934	HOT	T-6934	SID	T-6889b
BAT	T-6934			SIS	T-6889b
BAY	T-6934			SIX	Vol. 1
BEL	T-6889b	KI	T-6934	SOF	T-6934
BID	T-6889b	KID	T-6889b	SOP	T-6889b
BIZ	T-6934	KIM	T-6889b	SOU (MA)	T-6934
BO	T-6934			SUN	T-6889b
BOB	T-6889b				
BOY	T-6889b	LAG	T-6934	THREE	Vol. 1
BUG	T-6889b	LAP	T-6889b	TIP	T-6934
BUM	T-6889b	LAST	1925	TOR	1943
		LEGMA	1942	TORSAR	1942
CAN	Vol. 1	LET	1943	TUX	T-6889b
CIG	T-6889b	LIZ	T-6889b		
COLBERT	1943	LON	T-6934	VI	T-6934
CRANE	1943	LOST	1943	VIM	T-6934
				VISOKOI	1925
DAL	T-6934	MAD	T-6934		
DIN	T-6889b	MAID	1942	WILL	T-6889b
DIP	T-6889b	MAT	T-6889b	WRANGELL	1925
DIX	T-6934	MAV	T-6889b		
DOL	T-6889b	MAZE	1943	YAK	T-6889b
DON	T-6889b	MIDDLE	1942	YEN	T-6889b
DOT	T-6889b				
		MAERIE	1943	ZED	T-6889b
EAT	T-6889b	NI	T-6934	ZIM	T-6934
EIGHT	Vol. 1	NO	T-6889b		
FIG	T-6934	OFF	1943		
FINGER	1925	PAS	T-6934		
FIR	T-6934	PEISAR	1942		
FLY	T-6934	PIN	T-6889b		
FOX	T-6934				
FRAG	1943				
FRAN (GIR)	T-6934				
FRE	T-6934				

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. H6947

Records accompanying survey:

Boat sheets ...<sup>2</sup>; sounding vols. <sup>8</sup>...; wire drag vols. ....;  
 bomb vols. ....; graphic recorder rolls <sup>3</sup>...;  
 special reports, etc. ....  
 .....

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

Number of positions on sheet	2160 <del>172</del>	
Number of positions checked	226	
Number of positions revised	8	
Number of soundings recorded	14200 <del>7342</del>	
Number of soundings revised (refers to depth only)	82	
Number of soundings erroneously spaced	36	
Number of signals erroneously plotted or transferred	—	
Topographic details	Time 24	
Junctions	Time 20	
Verification of soundings from graphic record	Time 32	
Verification by <u>A.P. STIRNI</u> Total time	322 <del>274</del>	Date <u>3/14/45</u>
Review by <u>J.A. McCormick</u> Time	80	Date <u>5/17/45</u>



GEOGRAPHIC NAMES

Survey No. **H6947**

Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
<u>Sitka Sound</u>												1
<u>Baranof Island</u>								USGB				2
<u>Wrangell Island</u>			568353-354									3
<u>Blorka Channel</u>			"					"				4
<u>Maid Island</u>			"					"				5
<u>Legma Island</u>			"									6
<u>Fragrant Island</u>			"									7
<u>Torsar Island</u>			"									8
<u>Peiser Island</u>			"					"				9
<u>Crane Cove</u>			"									10
<u>Kliuchevoi Bay</u>			"									11
<u>Kolosh Island</u>			"									12
<u>Goddard</u>			"									13
<u>Hot Springs Bay</u>			"									14
												15
												16
												17
												18
<u>Sitka</u>												19
												20
												21
												22
												23
												24
												25
												26
												27

REPLACES UNDESIGNED  
 by L. H. RUCK on 5/24/48

(location of tide staff)

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6947

FIELD NO. 1442-43

S. E. Alaska; Sitka Sound; Legma Island to Peisar Island  
Surveyed in June, 1942; June-July, 1943, Scale 1:10,000  
Project CS - 247

Soundings:

Control:

Hand lead  
808 Fathometer  
Dorsey Fathometer

Three-point fix on shore signals

Chief of Party - G. Pierce  
Surveyed by - G. Pierce; C Le Fever  
Protracted by - R. M. Sylar  
Soundings plotted by - R. M. Sylar  
Verified and inked by - A. R. Stirni  
Reviewed by - J. A. McCormick  
Inspected by - H. W. Murray, May 17, 1945

1. Shoreline and Signals (Shoreline and low-water features have been revised to agree with T-8480, T-8481, except for Peisar and Wrangell Is. G.F.J. 7/20/51)  
Topographic signals are from T-6889 b (1942-43) and T-6934 (1943).  
Cuts for location of hydrographic signals are recorded in the sounding volumes.

Shoreline is from topographic maps T-8480 and T-8481 as revised in this office from T-6889 b (1942-43) T-6934 (1943) and T-4179 (1925-26). Photographs for T-8480 and T-8481 were <sup>inspected 1945-1947</sup> (not field inspected), consequently interpretation of rock detail and in some cases high water line was extremely difficult. New topography of Peisar Island and parts of Baranof Island was accepted almost entirely as shown on T-6889 b and T-6934. T-4179 was used mostly as a guide for rock detail west and north of Hot Springs Bay. Resultant shoreline and rock detail on the present survey were arrived at after many hours of study and adjustment, first by the verifier, then by the reviewer. As stated above, map compilations T-8480 and T-8481 have been revised accordingly. <sup># See Reviews T-8480 T-8481</sup>

2. Sounding Line Crossings

Satisfactory

3. Bottom Configuration

Bottom in this area is rugged and broken with rocks awash and rock islets rising abruptly from depths of 10 or more fathoms. The field party's development was well planned and executed.

4. Adjoining Surveys

Satisfactory junctions were effected with H-4554 (1925) on the south and west and with H-6655 (1940-41) on the northwest. H-6948 (1942-43), adjoining on the north, has not yet been verified.

H-7193 (1947)

Instructions have been issued for a 1945 resurvey of Biorka Channel. This work when completed, will overlap the southwestern corner of the present survey and will supersede part of H-4554 (1925).

5. Previous Surveys.

H-2175 (1893), 1:40,000

The 1893 survey covers practically all of the area under discussion. Lines were widely spaced but soundings obtained compare favorably with those of the present survey and give a fairly good idea of the nature of the bottom. Rock and reef detail are good, the present survey verifying most of it in substantially the same positions. A good example is the  $1\frac{1}{2}$  fathom charted sounding in lat.  $56^{\circ}50.1'$ , Long.  $135^{\circ}23.25'$  on H-2175. H-4554 (1925) missed this rock altogether, least depth obtained in the vicinity on normal spacing of lines being  $8\frac{1}{4}$  fathoms. The charted position of the rock fell just outside the limits laid out for the present survey but special search was made for it and a depth of  $1\frac{2}{6}$  fathoms obtained. Some of the soundings on H-2175 are a little displaced as compared with the present survey but this probably was due to varying speeds when beginning and ending lines. For example, a 14 fathom sounding (charted) in lat.  $56^{\circ}53.0'$ , Long.  $135^{\circ}26.8'$  on the present work but undoubtedly was obtained much closer to Peisar Island than shown. The present survey satisfactorily covers all features of importance on H-2175 and supersedes that survey for charting purposes.

6. Comparison with Chart 8255 (Print of July 6, 1944)

With the exception of three soundings added from chart Letter 445 of 1943 (advance report on the present survey) depths now charted in the area are from surveys discussed in previous paragraphs. It will be noted that there is a preponderance of sunken rock symbols on the chart, particularly near the southern limits of the present survey. They originated mostly with T-4179 (1925-26) and have been carefully considered in compilation of shoreline and rock detail discussed in par. 1. Most of them were investigated at minus tides by the present hydrographic party (see descriptive report) and definite soundings obtained. The present survey is basic for the area and supersedes, without exception, the hydrographic material now charted.

7. Compliance with Project Instructions

Satisfactory.

8. Additional Field Work Recommended

Characteristic of the area, there are many shoal indications on the present survey over which less water might be developed. For future reference, some of the more outstanding are listed below.

<u>Depth</u>	<u>Lat.</u>	<u>Long.</u>
5 4/6	56° 52.9'	135° 26.6'
12	56° 52.9'	135° 26.9'
15	56° 51.2'	135° 26.9' - Disproved by H-7193 (1947)
6 1/6	56° 50.9'	135° 27.4' - 4 <sup>2</sup> handlead on H-7193 (1947)
12	56° 51.0'	135° 27.3' - 12 retained - See H-7193 (1947)
4 2/6	56° 49.9'	135° 25.1'
12	56° 51.2'	135° 26.5' - 12 on H-7193 (1947), also

Examined and Approved:

*Charles Bruce*  
Division of Charts

*J. S. Borden*  
Chief, Division of Charts

*Carl O. Heston*  
Chief, Section of Hydrography  
*Acting*

*Raymond G. Gorman*  
Chief, Division of Coastal Surveys

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TIDE NOTE FOR HYDROGRAPHIC SHEET

December 28, 1944.

~~Division of Hydrography and Topography:~~

✓ Division of Charts: Attention: H. R. Edmonston.

Plane of reference approved in  
8 volumes of sounding records for


HYDROGRAPHIC SHEET 6947

Locality East of Biorka Island to Baranof Island, Sitka Sound, Alaska.

Chief of Party: Chas. Pierce in 1942-1943  
Plane of reference is mean lower low water reading  
5.0 ft. on tide staff at Sitka  
20.2 ft. below B. M. 16

Height of mean high water above plane of reference is 9.1 feet.

Condition of records satisfactory except as noted below:

  
Chief, Division of Tides and Currents.

