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<p>Form 504</p> <p>U. S. COAST AND GEODETIC SURVEY</p> <p>DEPARTMENT OF COMMERCE</p> <p>DESCRIPTIVE REPORT</p>	
Type of Survey	HYDROGRAPHIC
Field No. N-3, N-4	Office No. H-6755-6766
<p>LOCALITY</p>	
State	S. E. Alaska
General locality	Cross Sound
Locality	George Islands, Port Althorp
<p><u>1942</u></p> <p>CHIEF OF PARTY</p> <p>Charles Pierce</p>	
<p>LIBRARY & ARCHIVES</p>	
DATE	April 29, 1943

6765

REG. NO.
H6765

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.

Field No. H-3

REGISTER NO. H-6765

State Southeast Alaska

General locality Cross Sound

Locality George Islands

Scale 1:5,000 Date of survey September, 1942

Vessel M. V. WESTDAHL

Chief of Party Charles Pierce

Surveyed by C. F. Chenworth, Charles Pierce, Curtis LeFever

Protracted by W. M. Martin

Soundings penciled by W. M. Martin

Soundings in fathoms ~~FSS~~ Fathoms

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by Leroy King Jan 25, 1944

Verified by

Instructions dated (Telegram) August 12, 1942

Remarks: Smooth Sheet and Plotting by the

Seattle Processing Office.

6766

REG. NO.

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.

Field No. H-4

REGISTER NO. H-6766

State S. E. ALASKA

General locality Cross Sound

Locality Port Althorp

Scale 1:600 Insert
1:5,000 Date of survey September, 1942.

Vessel M. V. WESTDAHL

Chief of Party Charles Pierce

Surveyed by C. F. Chamberth

Protracted by Christine Necha

Soundings penciled by Christine Necha

Soundings in fathoms ~~333~~ Fathoms (insert in feet)

Plane of reference MLW

Subdivision of wire dragged areas by

Inked by Leroy King Jan. 25, 1944

Verified by " " " "

Instructions dated Telegram, August 12, 1942.

Remarks: Smooth Sheet and Plotting by the

Seattle Processing Office.

6765 6766 ①

DESCRIPTIVE REPORT NOTES TO ACCOMPANY HYDROGRAPHIC
SHEETS Nos. N-3, and N-4, 1942

DATE OF INSTRUCTIONS

This survey was accomplished in general under original instructions dated Feb. 14, 1940, and supplemental instructions dated Feb. 5, 1942 covering the project in Sitka Sound, but specifically ^{under} request for special survey by the Commanding Officer, Naval Air Station, Sitka, Alaska, dated August 10, 1942, and Director's authority to proceed by telegram dated August 12, 1942.

SURVEY METHODS

Triangulation was extended to provide plentiful control, and the topographic signals, shore line and other topographic features were located by plane table survey on a scale of 1:5000. The 808A depth recorder was used over the entire sheet No. N-4 and over all of sheet No. N-3 except for half a days work in the deep area on the South end of the survey. All fathometer comparisons were obtained with the sounding machine and all bottom samples were taken with the snapper.

DISCREPANCIES

The depth recorder was giving trouble on "a" day, sheet N-3 and deep soundings could not be obtained. A number of soundings were recorded across the deep area at the South end of the survey which were later disproved by a half day of sounding over this area using the WESTDAHL and the Dorsey No. 3 fathometer, and later soundings with the 808-A depth recorder. These soundings were rejected in red in the sounding volume at the time that the fathogram was scanned, and those that had been plotted on the boat sheet were removed as the primary purpose of the survey was to furnish the Navy with a copy of the boat sheet.

There are several other cases of slight discrepancies where the slight shift of a line will cause agreement and it is thought that the smooth plotting will bring about this agreement.

DANGERS

Sheet No. N-3 6765

The area off the point at the Southeast end of this survey is foul as shown on the sheet and should be avoided. The most dangerous spot in this area is the rock, bare at M.L.L.W. which was developed as shown on the sheet 175 meters S.S.W. of triangulation station CRAVE 1942. Attention is also called to the fact that shoal points extend out 155 meters S.W. of triangulation station DAHL 1942, 125 meters S.W. of DALE 1942, and 125 meters S.E. of WEST 1942.

Sheet No. N-4 6766

Two shoals were found, one with a least depth of 3fm 4ft. at lat. 58° 07' 31", Long. 136° 18' 90", and the other with a least depth of

[REDACTED] (2)

3 fm. 3 ft. at Lat. $58^{\circ} 07'.65$, Long. $136^{\circ} 18'.80$. The Southerly of these two shoals checked the charted value exactly, but the least sounding on the Northernly of the two was a few feet shoaler than the charted depth. These are the only places on the sheet that might be considered as dangers other than the shoal area of large extent at the northern end of the sheet.

CHANNELS

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A least depth of 2fm. ~~2~~³⁰ ft. was obtained 30 meters West of triangulation station SCHNAM 1942, in the narrow channel between the largest and the second largest islands of the George Is. group. Slightly deeper water may be found a little to the right of this sounding. Fishing boats have been seen using this channel but it is quite narrow and there is current of estimated velocity of about 3 knots at the maximum strength.

ANCHORAGES

Sheet N-3, 1942

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Anchorage may be had under ordinary conditions in Granite Cove. During the survey the WESTDAHL used this as an anchorage. There is usually a surge in this cove from the outside swell and for this reason the anchorage should be in 15 fathoms. This is definitely not a storm anchorage, as winds particularly from the South make it quite dangerous. The ranges used by the WESTDAHL in this anchorage are stations PILE 1942 (a lone piling) and signal HEN which is a small building, the furthest building to the East of a group of structures. These should be on range, the cross range being a line between signals EIM and DAIE 1942, the points upon which these are located being easily identified.

For the period during which the survey was being made, smooth water was always found on the North side of the Survey, and anchorage may be had between the twenty and the twenty five fathom curves at position Lat. $58^{\circ} 12'.28$, Long. $136^{\circ} 22'.70$. This is a small area and some current is present. The WESTDAHL did not use this anchorage and it is mentioned merely because of the calmer water conditions which are usually encountered here.

Another possible anchorage which was not used by the WESTDAHL, is 200 meters East of triangulation station GEORGE 1942 ^{with in} between the 15 and the 20 fathom curves. The water was always found to be smooth and free from surge here during the period of the survey.

SHEET N-4, 1942

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The large shoal area on the Eastern portion of this sheet was developed with the idea of furnishing information concerning the anchorage possibilities. An examination of the sheet will show that anchorage here may be had for a vessel of any size, although it was found by the WESTDAHL that the best storm anchorage for small vessels was at the head of Port Althorp.

COMPARISONS WITH PREVIOUS SURVEYS

In general the soundings obtained from this survey are in fairly close agreement with those obtained from the survey of 1901, register No. 2559, and with charted values, however in view of the scale used and the close spacing of the lines on this survey, it is recommended that this survey supercede all older ones.

BOAT SHEET

Because of the request of the Navy for a large scale and accurate survey upon which planning could be done, it was decided to use the aluminum mounted sheet, upon which the full accuracy of the survey could be preserved. The sheet was turned over to the Navy upon its completion to be photographed.

The soundings on this sheet have been reduced by the application of actual tide reducers taken from the tide gage at the end of each days work, with the exception of "a" day on sheet N-3. On this day the gage did not function and predicted tides were used and the office was requested to furnish interpolated values for this day to be used for the final reducers.

It was called to the attention of the Naval personal interested, that this is a preliminary field sheet subject to office verification and that the soundings were reduced from predicted tides on some days.

STATISTICS

Sheet N-3, 1942

6765

WESTDAHL

Soundings 508
Positions 61
Mileage 3.4 (Sta) Area 1 square mile

Launch

Soundings 2915
Positions 479
Mileage 36.1 (Sta)

Sheet N-4, 1942

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Launch only

Soundings 2861
Positions 616 Area 1 square mile
Mileage 36.1 (Sta)

LARGE SCALE INSERT COVERING END OF THE DOCK AT PORT ALTHORO

6766

In order to furnish a clearer picture of the depth conditions around the end of the dock, the dock was measured up with a steel tape and plotted on a scale of 1" equal to 50". The sides of the dock were then marked off into even intervals, and the soundings along the edge were taken from the dock with a hand lead. the off lying lines were run with the launch using the 808-A depth recorder. A uniform distance was kept off the face of the dock by the use of a graduated tag line, and as the launch made way slowly, positions were marked opposite the uniform intervals on the dock. The soundings were later taken from the fathogram and were plotted in feet.

Approved by:-

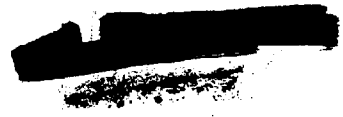
Submitted by:-

Charles Pierce, H&G Engr.
Comdg. M.V. WESTDAHL

C. F. Chemworth, H.&G. Engr.

H-6765

SEATTLE PROCESSING OFFICE NOTES



In one small area there are several irregularities. The field party seems to have preferred the deeper soundings. Note Paragraph 3, page 1, of the report by the field party. The points are indicated below:

	<u>Lat. & Long.</u>		<u>Pos. No.</u>	<u>Fathoms</u>	
①	58°	11:57	123a	19 fms.	← Rejected, trouble may be in pos. of fix.
	136	23.62	3d - 4d	33 fms.	

②	58	11.58	122-123a	18 "	Pos: 2d incorrectly plotted. No discrepancy now. ✓
	136	23.62	1d - 2d	32 "	

③	58	11.58	107-108c	19 "	OK. Affected by error in 2d noted above ✓
	136	23.65	1d - 2d	29-30 fms.	

④	58	11.6	112c	20 fms.	← Omitted
	136	23.57	77-78c	25 "	
			79c	28 "	

⑤	58	11.57	1d	39 "	OK. Bottom slopes rapidly here
	136	23.55	12 - 13 A	53 "	
			23 - 24 A	41 " ← omitted	

⑥	58	11.59	122-123a	11 "	OK,
	136	23.61			

⑦	58	11.58	17a	28 "	OK
	136	23.56			

The recurrence of the shall soundings in this small area on "a" and "d" days and the acceptance of items 2 and 6 by the field party inclines us to believe that these shall soundings should be rejected.
E.E.S.

Edgar E. Smith
Edgar E. Smith

Assoc. Cartographic Engineer
Seattle Processing Office.

Approved and forwarded: *F. H. Hardy*

F. H. Hardy
Officer in Charge,
Seattle Processing Office.

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SIGNALS:

All triangulation stations are from work of 1938
and 1942.

All topographic stations are from T-6891a. (1942)

]

SEATTLE PROCESSING OFFICE NOTES

H-6766

The insert is plotted in feet. The dimensions were taken from the boat sheet. Soundings made from the wharf at the numbered stations were placed inside the circles representing these points.

SIGNALS:

All triangulation stations are from 1942 work by this party.
All topographic signals are from T-6891b.⁽¹⁹⁴²⁾

Edgar E. Smith
Edgar E. Smith
Assoc. Cartographic Engineer
Seattle Processing Office.

Approved and forwarded:

F. H. Hardy
F. H. Hardy
Officer in Charge,
Seattle Processing Office.

F766

TIDAL NOTE

H-6766

Port Althorp, Southeast Alaska

Portable Automatic Gage at Port Althorp.

Latitude 58° 07.96
Longitude 136 19.83
Staff reading of MLLW

H6765

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. 4765

Records accompanying survey:

Boat sheets ...; sounding vols. ...; wire drag vols.; bomb vols.; graphic recorder rolls ...; special reports, etc.

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

Number of positions on sheet .540
Number of positions checked ..9..
Number of positions revised ..3..
Number of soundings recorded 3423
Number of soundings revised (refers to depth only) 4
Number of soundings erroneously spaced ...0..
Number of signals erroneously plotted or transferred ...0..
Topographic details Time
Junctions Time
Verification of soundings from graphic record Time

Verification by Leroy King Total time 48 Hrs. Date Jan. 25, 44

Review by H.W. Murray Time 7' Date 1/31/44

Remarks

Decisions

	Remarks	Decisions
1		
2		580365
3		580360
4	Location of tide staff	✓
5		✓
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GEOGRAPHIC NAMES
 Survey No. **H6765**



Name on Survey	Source										
	A, On Chart No.	B, On previous survey No.	C, On U. S. quadrangle Maps	D, From local information	E, On local Maps	F, P. O. Guide or Map	G, Rand McNally Atlas	H, U. S. Light List	K		
<u>S.E. Alaska</u>											1
<u>Cross Sound</u>											2
<u>George Islands</u>											3
<u>Granite Cove</u>											4
<u>Port Althorp</u>											5
											6
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											26
											27

L Heck 2/9/44

Surveys Section (Chart Division)

H6766

HYDROGRAPHIC SURVEY NO.



Records accompanying survey:


Boat sheets .1...; sounding vols. 2...; wire drag vols. .0...;
 bomb vols. 0.....; graphic recorder rolls .1...;
 special reports, etc. ^{Tracing}.....

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

Number of positions on sheet	.616.
Number of positions checked	..5..
Number of positions revised	..0..
Number of soundings recorded	2861.
Number of soundings revised (refers to depth only)	.23..
Number of soundings erroneously spaced	..0..
Number of signals erroneously plotted or transferred	..0..
Topographic details	Time
Junctions	Time
Verification of soundings from graphic record	Time

Verification by *LeRoy King*..... Total time *34 Hrs.* Date *Jan. 25, 44*

Review by *H.W. Murray*..... Time *4 "* Date *.. 31, 44*


H6766

Remarks

Decisions

	Remarks	Decisions
1		
2		580365
3	Location of tide staff	580360
4		
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GEOGRAPHIC NAMES

Survey No. **H6766**



Name on Survey	Source											
	A	B	C	D	E	F	G	H	K			
<u>S.E. Alaska</u>												1
<u>Cross Sound</u>												2
<u>Port Althorp</u>												3
<u>Chichagof Island</u>												4
												5
												6
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Names underlined in red approved
by L. Heck on 2/9/44

H-6765

TIDAL NOTE

Southeast Alaska

Cross Sound

George Islands

Granite Cove, George Is., Portable Automatic Gage

Latitude 58° 11.82

Longitude 136 23.70

Staff reading of MLLW ft.

MEMORANDUM

IMMEDIATE ATTENTION



SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H **H6765**
No. T **H6766**

received May 28, 1943
registered June 1, 1943
verified Jan. 25, 1944
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
✓ 25	Pg 2	<i>[Signature]</i>	
26			
30			
40			
62			
63			
82			
✓ 83	Pg 1	<i>[Signature]</i>	
88			
90			

RETURN TO

82	R.W.Knox
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RGC
HPC

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 2, 1943

~~Division of Hydrography and Topography:~~

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

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 6765

Locality George Islands, Cross Sound, S. E. Alaska

Chief of Party: Chas. Pierce in 1942
Plane of reference is mean lower low water reading
2.0 ft. on tide staff at Granite Cove
17.1 ft. below B.M. 3

Height of mean high water above plane of reference is 10.2 feet.

Condition of records satisfactory except as noted below:

C. K. Green

Chief, Division of Tides and Currents.

*File
712*

TIDE NOTE FOR HYDROGRAPHIC SHEET

June 2, 1943

~~Division of Hydrography and Topography:~~

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

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 6766

Locality Port Althorp, Cross Sound, S. E. Alaska

Chief of Party: Chas. Pierce in 1942
Plane of reference is mean low~~low~~ water reading
1.1 ft. on tide staff at Port Althorp
16.0 ft. below B.M. 1

Height of mean high water above plane of reference is 10.1 feet.

Condition of records satisfactory except as noted below:

C. J. Green

Chief, Division of Tides and Currents.

DIVISION OF CHARTS

REVIEW SECTION - SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NOS. 6765
6766

Field Nos. N-3 & N-4

Southeast Alaska, Cross Sound,
George Islands and Port Althorp
Surveyed in September 1942; Scale 1:5,000
Instructions dated August 12, 1942
(Telegram from Director)

Soundings:

808 and Dorsey
Fathometers

Control:

Three-point fix on shore signals

Chief of Party - Charles Pierce

Surveyed by - C. F. Chenworth, Charles Pierce
and Curtis LeFever

Protracted by - W. M. Martin and Christine Nechaj

Soundings plotted by - W. M. Martin and Christine Nechaj

Verified and inked by - Leroy King

Reviewed by - Harold W. Murray

Inspected by - H. R. Edmonston, January 29, 1943

1. Shoreline and Signals

The shoreline and signals originate with plane table
survey T-6891a&b (1942).

2. Sounding Line Crossings

Agreement of sounding line crossings is very good.
Several minor discrepancies listed by the Seattle
Processing Office (page 4 of D. R.) were adjusted in
the Office.

3. Depth Curves

The usual depth curves may be drawn satisfactorily.

4. Junctions with Surveys

No contemporary surveys adjoin the present survey.

5. Comparison with Prior Surveys

H-2559 (1901), scale 1:20,000

This survey completely covers the present survey. The development consisting of a few dozen soundings is quite sparse. This fact combined with the small scale of the old survey does not permit an adequate comparison.

On H-2559 in approximate Lat. $58^{\circ}11.7'$, Long. $136^{\circ}23.15'$, a 7-fm. (Pos. 25n), 5-1/2-fm. and 6-1/4-fm. (line 25-26e) and a 9-1/2-fm. (line 1-2n) fall in considerably deeper depths on H-6765. In each instance the discrepancy is due to incorrect protracting or plotting with respect to time interval. Correct plotting improved agreement in all cases.

The present survey is adequate to supersede H-2559.

6. Comparison with Chart 8304 (New Print date 8-20-43)

Charted hydrography originates with the present survey prior to verification and review and H-2559 (1901) discussed in the preceding paragraph.

7. Condition of Survey

Satisfactory.

8. Compliance with Project Instructions

Satisfactory.

9. Additional Field Work Recommended

This is an excellent basic survey and no additional work is necessary.

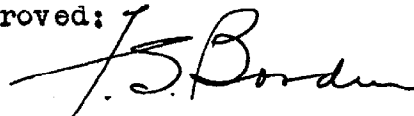
10. Superseded Surveys

H-2559 (1901) in part

Examined and approved:



Chief, Surveys Branch



Chief, Division of Charts



Chief, Section of Hydrography



Chief, Division of
Coastal Surveys

applicant's chart 8304 8/13/43 before verification H.E.M.
Suspected ch 8304 after review 6/12/44 GHE.