6577

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

L.O.Colbert, *Director*

State: Washington

DESCRIPTIVE REPORT

~~*Topographic*~~
Hydrographic } *Sheet No.* Field 3

LOCALITY

San Juan Islands

Iceberg Point to Cape St Mary

1940

CHIEF OF PARTY

R.L.Schoppe

U. S. GOVERNMENT PRINTING OFFICE: 1930

6577

Form 537
11—5812

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 3

REGISTER NO. H6577

State Washington

General locality San Juan Islands

Locality Iceberg Point to Cape St Mary

Scale 1:10,000 Date of survey March-April, 1940

Vessel Ship SURVEYOR

Chief of Party R.L.Schoppe

Surveyed by Ship's Personnel

Protracted by Clarence A. Kester

Soundings penciled by Clarence A. Kester

Soundings in fathoms ~~feet~~

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by J.A.McCormick

Verified by do

Instructions dated September 22, 1939, 192

Remarks: Plotted in Oakland Processing Office

GPO

DESCRIPTIVE REPORT
to accompany
HYDROGRAPHIC SHEET FIELD NO.3
PROJECT HT-241
SAN JUAN ISLANDS-WASHINGTON
U.S.C.& G.S.SHIP SURVEYOR
1940

INDTRUCTIONS

Instructions for this project were dated September 22, 1939

CONTROL

This sheet is on 1927 Datum. Triangulation is that of 1854,1859,1889 1939,and 1940. Topographic signals,obtained by standard Planetable methods, are from Topographic Sheet Field D,1939,1940 T-6803

SURVEY METHODS

The sounding was done by personnel of the Ship SURVEYOR,using standard sounding methods. Wire and hand-lead soundings were obtained, by launches No. 3 & 4, and fathometer soundings by the ship. Positions were obtained by sextant fixes. Ranges were used extensively by launch No. 3 to keep on line, and in most cases this same launch placed buoys on the shoals for a guide in development by drifting and a system of short lines.

DISCREPANCIES

With a few exceptions, the crossings are excellent, the agreement in most cases, being one fathom or less.

Between positions 17 & 18 b (green), and 65 & 66 B (red) there is an 18 fathom sounding close to a 12 fathom sounding. The depth in this area changes rapidly and the bottom is very irregular. The location of the area is Latitude 48-24.67; Longitude 122-46.5.

Between positions 190 & 191 b (green) and 71 & 72C(red) there is a 25 near a 30 fathom sounding. This can be adjusted by shifting the soundings very little. Latitude 48-25.1; Longitude 122-45.55 30 omitted.

The soundings between 139 & 140 D (red) appear to be a little shoal, although they may be all right Lat.48-24.35; Longitude 122-45.7. Reject soundings between pos. 137 and 142 D. Constant displacement.

The first sounding after position 69 A (red), page 20,Volume 6, is recorded as 30 fathoms, with a notation that it is actually 38 fathoms. It has been reduced and plotted as ~~30~~ 37 instead of ~~30~~ 29 fathoms. ~~22~~ O.K.

A few signals are named differently on the two boat sheets. In all cases the names used by the ship have been made to conform to the launch names,in the record books. Pus was named Slop by the ship;Man named Two;Bo named One;Yen named Tat, and Squ named Swi.

Just southeast of signal Shu three sunken rocks are shown on the boat sheet. These are not shown on the Topographic Sheet, nor could any reference to them be found in the records. They have not been put on the Smooth Sheet. Existence probable. Added to smooth sheet. Lat. 48°25.8 Long. 122°51.

DANGERS

In the small bight, south of Aleck Bay, two shoals; 4 1/6-159-160h(red) and 2 2/6 - 152h(red) were located.

A 7 1/4 fathom shoal, 700 meters West by South from Southeast Island was located. Position Nos. 120& 108 g (red).

A 5 fathom shoal, 400 meters North of Southeast Island was located. Position No. 57 h (red)

A 13 fathom shoal, 300 meters North of Davidson Rks Lt. was located. Position No. 65 d (red).

ANCHORAGES

The bight north of Boulder was used as an anchorage by the ship.

Aleck Bay is an excellent anchorage for small craft. It has a mud bottom.

COMPARISON WITH PREVIOUS AND CONTEMPORARY SURVEYS

In the small bight, south of Aleck Bay, the 1 1/2 fathom sounding, shown on Chart 6380, was not verified; a sounding of 2 2/6 fathoms being obtained in this area. 1½ carried forward.

The 4 1/4 fathom shoal, shown on Chart 6380, about 600 meters West by north from Southeast Island, was reduced to 4 fathoms.

The 6 5/6, 5, and 6 1/2 fathom shoals, 400 to 700 meters southeast of signal Bib, were indicated by the 4 3/4 fathom shoal shown on chart 6380. The 4 3/4 fm. sounding was not verified. $4\frac{5}{6}$ carried forward.

The 12 fathom shoal 1100 meters northeast of Davidson Rks Lt was indicated by a 13 fathom sounding on Chart 6380/

On the shoal, lying about midway between Davidson Rock and Lawson Reef, the least depth obtained on this survey was 6 fathoms. Chart 6380 shows a 3 3/4 and a 5 1/2 fathom sounding in this area, but it is noted that the Coast Pilot for California, Oregon, and Washington, 1934 Edition, states in the first paragraph on page 323 that the least depth on the shoal is 35 feet. It is not known, in this office, when the shoaler soundings were obtained, but as there was no developing done by this survey, it is recommended that further work in this area be done in order to prove or disprove these shoaler soundings.

Statement is corrected in 1937 supplement. $3\frac{3}{4}$ is from H-5929(1935) W.D. and is carried forward. $5\frac{1}{2}$ should be $5\frac{3}{4}$. Carried $5\frac{5}{6}$ from H-5659.

H-6607 (1939-40)

The junctions with Sheets Field No.3 and 5 of the current survey are satisfactory.

There are no photostats, in this office, of the old work in this area so no comparison can be made, however, this survey, in general, compares favorably with Chart 6380.

GEOGRAPHIC NAMES

T-6803

See Descriptive Report for Topographic Sheet Field D, Project HT 241, winter 1939-1940.

PLOTTING OF SOUNDINGS

In plotting the reduced soundings under 7 fathoms, the half feet have been dropped: between 7 and 11 fathoms they have been plotted according to the illustration below.

Fm.	Ft.	Plotted as;
7	1/2	7 Fm.
7	1	7 1/4 ".
7	1 1/2	7 1/4 ".
7	2	7 1/4 ".
7	2 1/2	7 1/2 ".
7	3	7 1/2 ".
7	3 1/2	7 1/2 ".
7	4	7 3/4 ".
7	4 1/2	7 3/4 ".
7	5	7 3/4 ".
7	5 1/2	8 ".

STATEMENT
to accompany

HYDROGRAPHIC SHEET FIELD NO. 3

The smooth plotting on this sheet was done by Clarence A. Kester, Hand (Hydrographic Observer), under the general supervision of Lieut.(j.g.) W.J.Chovan, at the Oakland Processing Office. The soundings were penciled by C.A.Kester.

The depth curves were drawn and the descriptive report was written by C.A.Kester.

The completed smooth sheet has been inspected and is approved.

Walter J. Chovan

W.J.Chovan
Jr.H.& G.E.
Officer in Charge
Oakland Processing Office

LIST OF SIGNALS
to accompany
HYDROGRAPHIC SHEET FIELD NO.3
1940

H6577

TRIANGULATION

Ardle	1940	"Ar"
Boulder	1854	"Bold"
DavidsonRks Lt	1939	"Dav"
Iceberg	1854	"Berg"
Kellett	1889	"Kel"
Southeast Island	1854	"Land"
Swirl	1889	"Squ"
Triple	1939	"Trip"

TOPOGRAPHIC

Ant	He	Out	Tar
Art	Ho	Osprey	Up
Ax	Ice	Pod	Us
Bel	If	Pus	Vil
Ben	In	Pot	Wil
Bi	Ina	Pin	We
Bib	Ire	Pan	Wag
Bo	Is	Pat	You
But	Jil	Pipe	Yen
Cab	Jo	Pole	Zo
Can	Job	Pol	Zig
Car	Jon	Quit	Zoo
Cat	Ken	Quo	
Chim	Kis	Root	
Cow	Lot	Run	
Cup	Lu	Row	
Cur	Leo	Reef	
Dan	Lom	Rut	
Dar	Lop	Rod	
Doc	Lin	Roe	
Doe	Lip	Red	
Dorm	Lem	Rot	
Dud	Lad	Rat	
Dum	Mut	So	
Ego	Mas	Six	
End	Mis	See	
Eno	Man	Shed	
Eva	Ma	Shu	
Fal	Mu	Sok	
Fat	Nut	Sid	
Fir	New	Spy	
Fish	Nox	Sam	
Flag	Nek	Sal	
Fun	No	Til	
Gas	Nig	Tor	
Gee	Neb	Ter	
Go	Nub	Tree	
Gud	One	Tip	
Gun	Or	To	
Had	Ox	Tax	

STATISTICS
to accompany
HYDROGRAPHIC SHEET FIELD NO.3
1940

H6577

DATE	DAY LETTER	POSITIONS	SOUNDINGS	STATUTE MILES
March 22	a(red)	196	554	16.0
" 27	b "	184	557	14.3
" 28	c "	260	661	21.4
" 29	d "	163	502	12.1
" 30	e "	107	520	14.1
April 1	f "	128	324	8.1
" 2	g "	177	229	8.0
" 3	h "	216	511	17.5
" 5	j "	15	30	0.5
" 1	a(green)	195	543	15.4
" 2	b "	192	559	20.7
March 21	A(red)	70	396	16.6
" 22	B "	80	432	19.8
" 27	C "	166	924	34.3
" 28	D "	225	1162	55.7
April 3	E "	115	598	18.8
TOTAL		2489	8502	293.3

The area of this sheet is 19.8 square statute miles.

FATHOMETER CORRECTIONS

On May 21,1940, a letter was written to the Commanding Officer of the Ship SURVEYOR requesting fathometer correction data for their winter work in Rosario Strait.

In accordance with their reply(see letter dated June 10,1940,a copy of which is attached) a simple comparison between fathometer and wire soundings was made, but these differences were so erratic that this method of obtaining reducers was discarded.

It was noted that the temperature between the surface and the bottom varied less than 1 degree C, throughout the winter season, so the mean temperature was used in determining the fathometer factor.

For dial speed see copy of letter,SURVEYOR July 8, 1940

Date	Day	Fath	V.C.	2-1	Surface	Bottom	S.G.
		SHEET 3					
Mar 21	A	37.0	36.6	-0.4	8.6	8.6	1.0240
22	B	37.6	37.9	+0.3	8.6	8.65	1.0240
22	B	36.0	35.8	-0.2	8.6	8.55	1.0239
27	C	32.5	32.5	-0.0	8.5	8.5	1.0220
27	C	43.5	43.2	-0.3			
27	C	45.5	44.9	-0.6	8.0	8.5	1.0238
27	C	46.3	45.5	-0.8			1.0238
27	C	29.4	29.0	-0.4	8.5		1.0238
28	D	26.5	26.1	-0.4	8.6		1.0238
28	D	55.0	54.2	-0.8	8.8	8.45	1.0238
28	D	43.0	43.0	-0.0	8.8	8.55	1.0238
28	D	25.4	25.6	+0.2			
Apr 3	E	28 4/6	28.0	-0.7	9.4	9.0	1.0237
		SHEET 4					
Mar 29	A	41.2	40.5	-0.7	8.7	8.6	1.0238
29	A	21.4	20.9	-0.5	8.6	8.6	1.0238
30	B	42.9	42.5	-0.4	8.8	8.6	1.0237
30	B	82.0	81.5	-0.5	8.8		1.0238
Apr 1	C	42.5	41.7	-0.8			
1	C	42.7	41.9	-0.8	8.7	8.8	1.0237
1	C	36.0	35.5	-0.5	8.9	8.7	1.0237
1	C	44.5	43.9	-0.6	8.7	8.8	1.0237
2	D	38.0	39.6	+1.6			
2	D	37.8	36.8	-1.0	8.6	8.9	1.0237
2	D	44.6	44.0	-0.6	8.9	8.8	1.0237
2	D	43.0	42.1	-0.9	9.2	8.9	1.0237
2	D	46.8	46.1	-0.7	9.4	8.9	1.0237
3	E	40.0	39.4	-0.6	9.0	8.9	1.0237
				Mean	8.8	8.7	Sal. 31

COMPARISON BETWEEN FATHOMETER AND VERTICAL CASTS

COMPARISON OF TEMPERATURES

FATHOMETER FACTORS & CORRECTIONS for SOUNDINGS OF 450 FATHOMS OR LESS-SAN JUAN ISLANDS, WASH.

Mean Salinity, 31 Standard Velocity 820

Depth in fathoms	Temperature °C	Mean Temperature	Factor
Surface	8.8		
Bottom	8.7	8.7	0.010

CORRECTIONS

Tenths		Feet	
14-23 fms	-.2 fms	5-21 fms	- 1 ft.
24-33 "	-.3	22-38 "	- 2
34-43 "	-.4	39-54 "	- 3
44-53 "	-.5	55-71 "	- 4
54-63 "	-.6	72-88 "	- 5
64-73 "	-.7	89-105 "	- 6
74-83 "	-.8		
84-93 "	-.9		
94-103 "	-1.0		

Correction to the nearest foot on this sheet, 0.3 being taken as the change point.

Commanding Officer
U.S.C. & G.S.S. SURVEYOR
601 Federal Office Bldg.
Seattle, Washington

POST-OFFICE ADDRESS:

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

C
o
p
y

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

Yakutat, Alaska
June 10,1940

To: Office in Charge,
U.S.Coast & Geodetic Survey,
Oakland Processing Office,
Oakland, California.

From: The Commanding Officer
U.S.S.SURVEYOR

Subject: Fathometer Corrections

With regard to your letter of May 21, 1940, requesting fathometer correction data for this vessels winter work in Rosario Straits you are advised that all such data is contained in the sounding volumes, with the exception of the following facts: 1. The "initial" was correctly set for the draft of the vessel, and 2. The speed of the instrument was regulated and set by Mr. Wright a day or so before the hydrography was commenced and can be assumed to be correct.

As the area sounded was limited, the variation in the temperature of the water was slight, it is believed that the corrections can best be obtained from a simple comparison of the vertical casts against their corresponding fathometer soundings.

(Signed) Ray L. Schoppe
Commanding Officer
U.S.C. & G.S.S. SURVEYOR

RLS/rwk:hk

POST-OFFICE ADDRESS:
TELEGRAPH ADDRESS:
EXPRESS ADDRESS:

Commanding Officer
U.S.C. & G.S.S. SURVEYOR
601 Federal Office Bldg.
Seattle, Washington.

C
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y

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

July 8, 1940 Juneau, Alaska

To: Officer in Charge,
Oakland Processing Office,
U.S. Coast & Geodetic Survey,
Box 1197, Oakland, California.

From: The Commanding Officer
U.S.C. & G.S.S. SURVEYOR

Subject: Sheave corrections.

With reference to your letter of June 25, 1940 you are advised that no corrections need be applied to soundings obtained with sheave No. 337.

The dial speed of this vessel's Dorsey No. 3 fathometer is 20½ signals per second on the 20 fathom dial, 4 1/10 on the 100 and 41/100 on the 1000 fathom dial.

(Signed) Ray L. Schoppe
Commanding Officer
U.S.C. & G.S.S. SURVEYOR

RLS/rwk:hk

RQC
NRC

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

November 30, 1940

Division of Hydrography and Topography:

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

Plane of reference approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 6577

Locality Iceberg Point to Cape St. Mary, San Juan Islands

Chief of Party: R. L. Schoppe in 1940
Plane of reference is mean lower low water reading
1.1 ft. on tide staff at Aleck Bay
9.2 ft. below B. M. 1

Height of mean high water above plane of reference is 6.4 feet.

Condition of records satisfactory except as noted below:

Hann
acty Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 154337

	Remarks	Decisions
1		484228
2		"
3		"
4		"
5		"
6		"
7		"
8		" U.S.G.B
9		"
10		"
11		484227 U.S.G.B
12		485229
13		484228
14		"
15		"
16	Two rocky islets in entrance Aleck Bay (not named ch. 6380)	" U.S.G.B.
17		484227
18		"
19		
20		
21		
22		
23		
24		
25		
26		
27		

GEOGRAPHIC NAMES

Survey No. H6577

	Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
	Aleck Bay										1
	Boulder Island										2
	Cape St. Mary										3
	Castle Island										4
	Colville Island										5
	Davidson Rock										6
	Hughes Bay										7
	Iceberg Point										8
	Lopez Island										9
	McArdle Bay										10
	Rosario Strait										11
	San Juan Islands										12
	Telegraph Bay										13
	Watmough Bay Light										14
	Watmough Head										15
	Aleck Rocks										16
	Lawson Reef										17
	Pt. Colville										18
											19
			Names underlined is not approved								20
			by L. Heck on 4/12/41								21
											22
											23
											24
											25
											26
											27

M 234 1R

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H6577

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

Number of positions on sheet	2489
Number of positions checked	38
Number of positions revised	1
Number of soundings recorded	8502
Number of soundings revised	32
Number of soundings erroneously spaced	9
Number of signals erroneously plotted or transferred	0

Date: 3/31/41

Verification by J.A.McCormick Time: 85 hrs.

Review by J.A.McCormick 4/7/41 Time: 19 hrs.

2629

HYDROGRAPHIC SURVEY NO. H6577

Smooth Sheet One

Boat Sheet Two

Records; Sounding 8 Vols., Wire Drag ___ Vols., Bomb ___ Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) No

Special Chart for Lighthouse Service (Circular Nov.30, 1933) No

Hydrography: Total Days 16 ; Last Date April 3,1940

Remarks

2776

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H 10577

xxxxxxx

received Oct. 23, 1940
registered Oct. 29, 1940
verified
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	✓	HBC	Page 2
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed

✓ HBC

DIVISION OF CHARTS

Surveys Section

REVIEW OF HYDROGRAPHIC SURVEY NO. 6577 (1940) FIELD NO. 3

Washington; San Juan Islands; Iceberg Point to Cape St. Mary
Surveyed in March - April 1940, Scale 1:10,000
Instructions dated September 22, 1939 (SURVEYOR)

Soundings: Hand Lead and Machine Dorsey III Fathometer

Control: Sextant Fixes on Shore Signals

Chief of Party - R. L. Schoppe
Surveyed by - R. L. Schoppe
Protracted by - C. A. Kester
Soundings plotted by - C. A. Kester
Verified and inked by - J. A. McCormick
Reviewed by - J. A. McCormick, April 7, 1941
Inspected by - H. R. Edmonston

1. Shoreline and Signals

Topographic detail and signals are from T-6803 (1939-40). Shoreline beyond the limits of the hydrography is from T-6737 and T-6804 of 1939-40.

2. Sounding Line Crossings

There were some discrepancies at crossings of ship and launch lines on the shoal in Lat. 48° 24', Long. 122° 46'. Satisfactory disposition was effected in the office without undue difficulty.

3. Depth Curves

Satisfactory.

4. Junctions with Contemporary Surveys

The junction with H-6607 (1939-40) on the east is excellent. Surveys on the north, south, and west have not been received from the field.

5. Comparison with Prior Surveys

H-333 (1852), 1:215,000; H-433 (1854), 1:100,000; H-1629 (1884), 1:80,000; H-1814 (1887), 1:20,000; H-1886 (1888), 1:20,000; H-2212 (1894), 1:40,000; H-2641 (1903-04), 1:10,000; H-4592 (1926), 1:10,000; H-4606 (1926), 1:40,000; H-5659 (1935), 1:20,000; H-5929 (1935) W.D., 1:20,000

Surveys of 1852 to 1904 range from small-scale reconnaissance to fairly close development. Agreement with the present survey is, in general, fair. Surveys of 1926 and 1935 are quite accurate and agree closely with the present survey. The additional work recommended by the field party on the shoal in Latitude 48° 24.5', Longitude 122° 46' (descriptive report, page 2) is unnecessary as the shoal was examined in considerable detail in 1935 both by wire drag and by close development. Several soundings have been carried forward from H-5659 and H-5929 W.D. in this vicinity, and, on a few isolated shoals to the westward, soundings have been carried from H-4592. There are no conflicts between drag depths and soundings. A shoal indication of 12 fathoms (possibly erroneous) in Lat. 48° 24.7', Long. 122° 46.5' was cleared with an effective drag depth of 58 feet. All previous surveys except H-5929 W.D. are superseded by the present survey.

6. Comparison with Chart 6380 (New Print of April 13, 1940)

Depths charted in this area are from previously discussed surveys. The 5-1/2-fathom depth charted in Lat. 48° 24.7', Long. 122° 46.0' should be 5-3/4 (from a 5-5/6 on H-5659). Survey positions of navigational aids in the area are substantially as charted.

7. Condition of Survey

Field transfer of topographic detail was such as to require considerable office revision. Otherwise, the survey was satisfactory.

8. Compliance with Instructions for the Project

Satisfactory.

9. Additional Field Work Recommended

None.

10. Superseded Surveys

H- 333	in part	H-2212	in part
H- 433	" "	H-2641	" "
H-1629	" "	H-4592	" "
H-1814	" "	H-4606	" "
H-1886	" "	H-5659	entirely

Examined and approved:

Thos. B. Reed,
Chief, Surveys Section

F. B. Borden
Chief, Division of Charts

C. K. Green
Chief, Section of Hydrography

Chief, Division of Coastal Surveys

Applied to Cht. 6380 May 26, 1941. S.P.
" " " 6382 Aug. 2, 1941. J.M.A. via 6380
" " " 6300 May 12, 1942 S.P.
Appd to cht 184 1:25,000 insets 11-6-61 RKD
Appd to cht 6382 EXT where cht 6380 disagrees w/ A cht 6382 1-5-65 JWS

Revised Rock symbols on 6382 Stuart 7-12-72
per 1968 Memo

Fully applied to chart 18429 Dec 20, 1977 B. Hamilton