8084

Diag. Cht. No. 6380-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. LJ-1153 *Office No.* H-8084

LOCALITY

State Washington

General locality San Juan Archipelago

Locality San Juan Channel

19~~4~~/ 53-55

CHIEF OF PARTY

Kenneth S. Ulm

LIBRARY & ARCHIVES

DATE January 11, 1955

B-1870-1 (1)

8084

Form 537
(Ed. June 1946)

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-8084

Field No. LJ-1153

State WASHINGTON

General locality SAN JUAN ~~ISLANDS~~ ARCHIPELAGO

Locality SAN JUAN CHANNEL

Scale 1:10,000 Date of survey 11 April to 26 Oct. 1953 and 12-13 April 1955

Instructions dated 11 March and 8 May 1953

Vessel LESTER JONES

Chief of party KENNETH S. ULM

Surveyed by Kenneth S. Ulm, Charles A. Schoene and Jack E. Guth

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

Fathograms scaled by George Palms and Gary Jones

Fathograms checked by Kenneth S. Ulm, Charles A. Schoene, Jack E. Guth and W. F. Glover

Protracted by C.R. Lehman

Soundings penciled by C.R. Lehman

Soundings in fathoms & tenths and are true depths at ~~MLW~~ MLLW

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 777032

EGT
J.H.E.

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8084 (FIELD NO. LJ-1153)

SAN JUAN CHANNEL - WASHINGTON

SCALE L:10,000 - APRIL THRU OCTOBER - 1953

SHIP LESTER JONES - KENNETH S. ULM, COMDG.

Charles A. Schoene, CDR., USC&GS, in charge of field work

A. PROJECT:-

Authority for this project is contained in SUPPLEMENTAL INSTRUCTIONS - PROJECT CS-241 to Commanding Officer, LESTER JONES, dated 11 March 1953 and 8 May 1953.

B. SURVEY LIMITS AND DATES:-

This survey covers the area of San Juan Channel between Latitudes 48°-27'-40" and 48°-32'-50", eastward to Lopez Island (including Fisherman Bay) and westward to San Juan Island and Longitude 122°-58'-00" (north of Turn Island). The index of hydrographic sheets is shown on the monthly progress sketch for this project. Field work was begun on 11 April 1953 by signal building and inspection of standard gage at Friday Harbor and completed on 26 October 1953.

This survey makes a junction to the south with prior survey No. H-6746, scale 1:10000, 1942; to the north with prior survey No.* H-2213, scale 1:10000, 1894; and north and south of Turn Island with contemporary survey H-8087 (Field No. LJ-05253), scale 1:5000, 1953. * Review, par. 4

C. VESSELS AND EQUIPMENT:-

Sounding on this sheet was done by the ship LESTER JONES and launch No. 92 (a standard diesel powered motor launch) operating from the ship. A large number of leadline soundings were taken from a 16 ft. skiff, along the piers at Jackson's Cannery, and also to verify many of the rocks and shoals. Launch No. 92 has a turning radius of about 20 meters, and the LESTER JONES about 100 meters.

808 fathometers No. 75 and 102 were used for all the echo sounding on this survey. The leadline was used up to 20 fathoms to verify the least depths on shoals.

D. TIDE AND CURRENT STATIONS:-

Three tide stations were used to reduce the soundings on this sheet. The portable tide gage at Jackson's Cannery, Argyle, North Bay was used from the beginning of the survey to the 25th of June. The portable tide gage at the county wharf at Lopez, Lopez Island was used on 21,22,23 and 24 August and 25 June. The standard tide gage at Friday Harbor was used on 26 October. No time or range corrections were applied to the tidal data.

One current station was occupied by the LESTER JONES 14-18 April 1953 in San Juan Channel, in Latitude 48°-30.8', Longitude 122o-57.0'.

E. SMOOTH SHEET:-

The smooth sheet is to be plotted by the Seattle Processing Office.

F. CONTROL STATIONS:-

The triangulation for this survey was established by J.J.G. in 1889, 1894 & 1897; and by L.C. Wilder in 1940. One additional station, ALERT 1953, was established by this party to furnish control for a graphic control survey of Fisherman Bay. All triangulation is on the North American Datum 1927.

The hydrographic signals in Fisherman Bay and Fish Creek were located on Graphic Control Survey C-53. The methods of location are explained in the descriptive report for that survey.(attached hereto) G.C. sheet destroyed

A large number of hydrographic signals on the east side of San Juan Island were located by radial plot on Topographic Manuscripts T-5591-S and T-5592.

Most of the remaining signals were located by theodolite cuts from triangulation stations. The majority of these were plotted directly on the boat and smooth sheets, but a few of the positions were computed.

A few signals were located by sextant cuts or a combination of sextant and theodolite cuts, and were shown on the boat sheet with blue circles. No unusual or substandard methods were used to locate the signals. Signal "OWL" was originally located by sextant cuts but later relocated on Graphic Control Survey No. "E"-53. A list of signals attached to this report shows the name of each signal and the method of location.

G. SHORELINE AND TOPOGRAPHY:- see Review, par. 1.

The shoreline on San Juan Island west of Longitude 123°-00.0' should be obtained from Topographic Manuscripts No. T-5591-S and No. T-5592, scale 1:10,000. The remainder of the shoreline should be taken from the original topographic surveys of this area. Some of the shoreline in Fisherman Bay was rodded in by planetable on the Graphic Control survey of this area. In general the present shoreline agrees with that shown on the original topographic surveys in this area , altho some small changes were found in Fisherman Bay, and also the piers at Jackson's Cannery in North Bay.

No important discrepancies were noted between the hydrographic and topographic surveys of this area. The Processing Office should comment on any discrepancies found in applying the shoreline to the smooth sheet.

The low-water line is adequately defined by the soundings except in a few places where the beach is quite steep and rocky, and it was impractical to run the launch close enough to obtain zero soundings.

H. SOUNDINGS:-

Except for lead line soundings on shoals and rocks and alongside docks, all sounding was done by 808 recording fathometers No. 75 and 102 mounted on the ship LESTER JONES and in Launch 92. In the launch, the transducer units were mounted on the keel (just forward of amidships), protected by a wooden fairwater. The units gave satisfactory results in this position

except for a few times when a piece of drift or kelp was caught under the boat. When this happened it was necessary to break the sounding line and reverse the launch until the obstruction was cleared. On the ship the units were mounted in a similar place and gave quite satisfactory results.

In general, three bar checks were taken daily at 2,5 & 7 fathoms. The initial was set at 0.0 and kept there for all soundings in fathoms. Fisherman Bay because of its shoal depths was sounded in feet on the 22,23 & 24 of August. For the sounding in feet the bar checks were taken at 6 foot intervals down to 42 feet, and the initial was kept at 2.0 feet. The velocity corrections obtained from the bar checks and from the temperature and salinity observations are explained in the fathometer report. A copy of the final velocity corrections will be included in this report.

No corrections were applied to the leadline soundings as the checks showed that any errors were generally less than 0.5 of one per cent. Also, no corrections were applied for error in the lengths of bar check lines, for the same reason.

Four days of sounding was done on this sheet by the ship LESTER JONES. For this sounding the initial was set at 1.0 fathom and no bar checks taken (See Fathometer Report).

I. CONTROL OF HYDROGRAPHY:

Standard methods of control were used thru out this survey. The positions were controlled by three point fixes on shore objects. In some places close to shore the position of the launch was spotted from the topography and designated "Boat Sheet Position". No unusual or substandard methods were used on this survey. In general, compass courses were used to control the direction of the lines, but ranges were used to a limited extent on the launch sounding. The strong currents in this area made it difficult to run straight lines.

J. ADEQUACY OF SURVEY:-

This survey is considered to be complete and should supersede all prior surveys for charting.

The junction with Survey No. H-6746 (1942-43) in the vicinity of Goose Island is satisfactory and the depth curves can be drawn adequately. The junction with survey No. H-2213 in the south end of Upright Channel is satisfactory considering that the area will be resurveyed in the near future as a part of this project. The junction with Survey No. H-8087 (LJ-05253), north and south of Turn Island, is satisfactory and the depth curves can be adequately drawn.

K. CROSSLINES:-

Crosslines run on this survey were approximately 7% of the regular system of lines exclusive of development. In general, the soundings on the crosslines were in good agreement and no important discrepancies noted.

The Processing Office should comment on this paragraph after soundings are penciled on smooth sheet.

L. COMPARISON WITH PRIOR SURVEYS:-

Prior survey No. H-2642, 1903, scale 1:10000 covers the major portion of this survey. Survey No. H-2213, 1894, scale 1:10000 covers this area north of Turn Island.

In general the new survey is in good agreement with both prior surveys, but lesser depths were found on many of the shoals.

Some new (15) shoals were found and a few of the old soundings were disproved.

(a) The ~~31~~ 32 fm. sounding (Lat. 48°-30'-50", Long. 122°-58'-30") shown on survey H-2642 has been disproved. No evidence of a shoal was found in this area. (Prior sdg. slightly out position; comparable depths closeby on pres. survey)

(b) The 9¼ fm. sounding (Lat. 48°-30'-50", Long. 123°-00'-15") shown on survey H-2642 has been disproved. The shoalest sounding found in this area was 13 fms. Concur; see Review, par. 5 (3)

(c) The 28 fm. & 31 fm. soundings (Lat. 48°-29'-05", Long. 122°-58'-25") shown on survey H-2642 have been disproved. Both of these soundings plot in depths of 36 or 37 fms. Concur; See Review, par. 5 (4)

(d) The 20 fms. sounding (Lat. 48°-32'-40", Long. 122°-56'-30") shown on survey H-2213 has been disproved. It plots on the 30 fm. curve as shown on the boat sheet. Concur; See Review, par. 5 (1)

All the soundings listed above should be deleted from the charts.

The agreement in depths at junctions was discussed in paragraph "J".

M. COMPARISON WITH CHART:- See Review, par. 6

The area of this survey is covered by two charts: No. 6379, scale 1:20000, print date 53-3/2 and No. 6380, scale 1:80000, print date 52-7/14.

(a) The charted rock awash (Lat. 48°-32'-00", Long. 122°-55'-05") was found about 60 meters north of the charted position.

(b) In the area just west of the entrance to Fish Creek Chart No.6380 shows a row of 4 piles. At the time of this survey there was only one dolphin (Signal "HEX") and one pile signal "FAT". The row of piles should be deleted as now shown on chart 6380. noted in Review, par. 6.

(c) There is an area of broken piles in Griffin Bay (Lat. 48°-28'-40", Long. 123°-00'-10") that should be charted. This area is defined by positions 10b-13b, 11 May 1953, Vol. 32, green day letter sounded by skiff.

(d) Halftide Rock is charted as a rock awash. According to an elevation obtained by this survey, pos. 5b, Vol.32, the rock is 3 feet above mean high water and should be charted as a bare rock. ϕ 48°28.73' λ 122°59.93'

N. DANGERS AND SHOALS:

Several new shoals were found by this survey but they are not considered dangers to navigation. Appreciably less water was found on several shoals shown on prior surveys.

(a) A least depth of ~~2.1~~ 2.0 fms. by leadline (Pos. 4k, Vol.32), Lat. 48°-32'7, Long. 122°-56'7, was obtained on the sunken rock charted on No. 6380.

(b) An uncharted shoal was found in Lat. 48°-32'-40"", Long. 122°-57'-40" with a least depth by leadline of ~~2.1~~ 1.9 fms. positions 18ag & 19ag, Vol. 27.

(c) An uncharted shoal was found in Lat. 48°-32'-45", Long. 122°-58'-20" with a least depth by fathometer of ~~about~~ 2.7 fms. 2.6 on H-8087

(d) An uncharted shoal was found in Lat. 48°-32'-50", Long. 122°-58'-00" with a least depth by fathometer of about 6 fms. This shoal was apparently developed on Survey H-8087 (LJ-05253) with a least depth by lead line of 5.5 fms. positions 135g & 136g.

(e) A sounding of 7.8 fms. by lead line (Positions 62ag & 64ag, Vol. 27) was obtained on the 9¼ fm. shoal shown on Charts 6379 & 6380 (Lat. 48°-32'-40", Long. 122°-57'-20"). It is recommended that the new sounding of 7.8 fms. be charted. A 7½ fm sounding on northern part of this shoal pos 42-43 ag Vol #27. chart 7.6

(f) A sounding of 4.1 fms. by lead line (Positions 23ae & 24ae, Vol. 26) was obtained on the 3½ fm. shoal shown on charts 6379 & 6380 (Lat. 48°-32'-50", Long. 122°-57'-30"). It is recommended that the old sounding of 3½ fms. be retained on the chart. 4 fm by fathometer. 3½ fms. retained

(g) A sounding of 1.8 fms. by lead line (Pos. 4ae, Vol. 26) was obtained on the 2¼ fm. shoal shown on Charts 6379 & 6380 (Lat. 48°-32'-48", Long. 122°-57'-10"). It is recommended that the new sounding of 1.8 fms. be charted.

(h) A sounding of about 18 fms. by fathometer (Pos. 109v, Vol. 21) was obtained on the 23 fm. shoal shown on charts 6379 & 6380 (Lat. 48°-32'-00", Long. 122°-57'-10". It is recommended that the new sounding of 18 fms. be charted.

(j) 11 fm. shoal shown on charts 6379 & 6380 (Lat. 48°-31'-40", Long. 122°-57'-10"). A lead line sounding of 10.6 fms. (Pos. 171z, Vol. 24), was obtained on this shoal. The shoalest fathometer sounding obtained was 10.2 fms. between positions 56w & 57w, Vol. 22. It is recommended that the shoalest fathometer sounding of 10.2 fms. be charted. 7.3 fms. by fathometer, pos. 19ac

(k) A sounding of 7.4 fms. by lead line (Pos. 39ac, Vol. 25) was obtained on the 9½ fm. shoal shown on charts 6379 & 6380 (Lat. 48°-31'50", Long. 122°-57'-50"). It is recommended that the new sounding of 7.4 fms. be charted.

(l) A shoal with a least depth by fathometer of about 2½ fms. was found in Lat. 48°-31'-12", Long. 122°-57'-18". pos. 5-6ac Vol. 25.

(m) A sounding of 3.3 fms. by lead line (Positions 1-4e day, Vol. 5) was obtained on the 6½ fm. shoal shown on chart 6380 (Lat. 48°-30'-42", Long. 122°-59'-45"). It is recommended that the new sounding of 3.3 fms. be charted. This sounding was reported to the Coast Guard by letter on 15 May 1953.

(n) A sounding of 5.6 feet by lead line Pos. 1c(Green), Vol.32) was obtained on the 1-3/4 fm. rock shown on chart 6380 (Lat. 48°-30'-25", Long. 122°-59'-25"). It is recommended that the new sounding of *5.6 ft. be charted. This sounding was reported to the Coast Guard by letter on 15 May 1953. *0.9 fms

(o) A sounding of 5.2 fms. by lead line (Positions 27n & 30n, Vol. 13) was obtained on the 6-3/4 fm. shoal shown on Chart 6380 (Lat. 48°-30'-35", Long. 123°-00'-10"). It is recommended that the new sounding of 5.2 fms. be charted.

(p) A new shoal with a least depth of 10.4 fms. by lead line (Pos. 51n, Vol. 14) was found in Lat. 48°-30'-45", 123°-00'-03".

(q) A sounding of 5.4 feet by lead line (Pos. 10d, green, Vol. 32) was obtained on the 1 fm. rock charted on 6380 (Lat. 48°-30'-10", Long. 123°-00'-10"). — 0.9 fms.

(r) A sounding of 4.0 feet by leadline (Pos. 6d, green, Vol. 32) was obtained on the 3/4 fm. rock charted on 6380 (Lat. 48°-29'-18¼", Long. 123°-00'-05"). — 0.7 fms.

(s) A new shoal with a least depth of 3.0 fms. by lead line (Pos.134x, Vol. 23) was found in Lat. 48°-28'-15", Long. 122°-59'-10".

(t) A sounding of 10.6 fms. by lead line (Positions 76ℓ & 77ℓ, Vol. 12) was obtained near the charted 12 fm. sounding on chart 6380 (Lat. 48°-28'-10", Long. 122°-58'-30"). It is recommended that the new sounding of 10.6 fms. be charted. A 10 fm fathometer sounding pos 61-62ℓ is also in this area. A good clear return. Chart 10 fms

(u) A sounding of 12.3 fms. by lead line (Positions 70x & 71x, Vol. 23) was obtained on the 18 fm. shoal shown on chart 6380 (Lat. 48°-28'-35", Long. 122°-58'-10"). It is recommended that the new sounding of *12.3 fms. be charted. A good clear fathometer sndg of 11 fms ~~which reduces to 11 fms~~ at pos. 67x is near pos 70x. *chart 11 fms.

(v) A sounding of 17.5 fms. by fathometer and 18.4 fms. by leadline (Pos. 20x, Vol. 23) was obtained on the 23 fm. shoal shown on Chart 6380 (Lat. 48°-30'-05", Long. 122°-58'-10"). It is recommended that the new sounding of *17.5 fms. be charted. On this shoal are two soundings of 16.4 fms pos. 8-9C (54.ia) and pos. 12-13x. *chart 16 fms.

(x) A new shoal with a least depth of about 24 fms. by fathometer was found in Lat. 48°-29'-45", Long. 122°-58'-12". 23.6 fms pos. 37-38x chart 23 fms.

(y) A new shoal with a least depth of ~~about~~ 23 fms. by fathometer was found in Lat. 48°-29'-15", Long. 122°-57'-55".

(z) A new shoal with a least depth by ~~leadline~~ fathometer of ~~8.3~~ 7.9 fms. (Pos. ~~23l~~ 16l, 19l, 22l Vol. 12) was found in Lat. 48°-28'-15", Long. 122°-56'-48". Two 9¾ fm sdgs (fathometer) at pos. 157-158 J

(ab) A new shoal with a least depth by leadline of (10.0) fms. (Positions 113l, and 114l, Vol. 12) was found in Lat. 48°-28'-20", Long. 122°-56'-55".

All important charted dangers, shoals and bare rocks were found as charted or shoaler depths were found except as listed in paragraphs L, M & N. A large number of shoals were found and developed that have not been specifically mentioned in this paragraph as they were not considered to be important.

O. COAST PILOT INFORMATION:-

Coast Pilot information for this area is included in a special report, "Coast Pilot Notes - 1953", forwarded to the Washington Office 17 February 1954.

P. AIDS TO NAVIGATION:-

There are two fixed aids to navigation in this area, "TURN ROCK LIGHT" and "CATTLE POINT LIGHT". Their positions were determined by triangulation in 1940 and were not relocated during this survey.

There are no floating aids to navigation in this area.

Q. LANDMARKS FOR CHARTS:-

Form 567, Landmarks for Charts, was transmitted to the Washington Office 17 February 1954. No new landmarks were recommended in this area.

R. GEOGRAPHIC NAMES:-

A special report on geographic names has not been made for this project and is not deemed necessary. No additions or changes in geographic names are recommended for this area.

Z. TABULATION OF APPLICABLE DATA:-

The following records have been forwarded to the Washington Office:

2 ea. Form 681 - Report, Tide Station, Friday Harbor	5/4/53
1 Vol. - Tide Level Record - Friday Harbor	"
28 ea. - Recovery Notes, San Juan Islands	7/1/53
3 ea. - Description of Triang.Stas., San Juan Islands	12/7/53
26 ea. - Recovery Notes, San Juan Islands	"
1 Vol. - Tide Level Record, Friday Harbor	"
2 Copies - Season's Report, 1953, Ship LESTER JONES	1/13/54
2 Copies - Form 567 - Landmarks for Charts, Project CS-241	2/17/54
2 Copies - Form 567 - NonFloating Aids to Navig.," "	2/17/54
2 Copies - Coast Pilot Notes - Project CS-241,San Juan Is.	"

The following records have been transferred to the Seattle Processing Office:

3 vols. - Form 251a - Triang. Observations, Project CS-241	1/15/54
24 sheets - Form 24a - Lists of Directions, Project CS-241	"
3 sheets - Form 28b - List of Geo. Pos., Project CS-241	"
2 alum sheets - Graphic Control Survey, C-53,D-53,E-53	1/20/54
2 copies - Descriptive Report - Graphic Control Sheet C-53	"
2 copies - " " " " " D-53	"
2 copies - " " " " " E-53	"
2 copies - Airphotographic Field Insp. Report - 1953	"
4 ea. - Topo. Manuscripts, T-5591-S,T-5592,T-5590-N,T-5590-S	
28 ea. - Photographs: 1008 thru 1016, 1029,1030,1035,1036, 1037,1043,1044,1045,1062,1063,1064,1065, 1073,1074,1104,1105,1106,1107,1108	"
2 ea. - Film positives: Topo. Survey No. T-2230	"
2 ea. - Bromoils: Topo. Surveys, 2230 & 1955	"
4 ea. - " Photo. " , T-5592,T-5590-S,T-5590-N, T-5591-S	"
3 ea. - Pricking cards	1/21/54

Following is a list of records now on hand that will be transferred to the Processing Office in the near future:

1 ea. - Boat Sheet, Survey No. H-8084 (Field No. LJ-1153)
1 envelope - Overlay tracings " " " "
32 Vols. - Sounding Records " " " "
33 Fathograms - " " " "
1 Cahier - Tidal Data, Curves & Reducers - Argyle, North Bay
1 Cahier - " " " " " Lopez, Lopez Island
1 ea. - Bromide Print - Hydrographic Survey H-2642
1 ea. - " " " " H-2213

A list of hydrographic signals used is attached to page 1, Vol. 1 of the sounding records and is also attached to this report.

Respectfully submitted,

Charles A. Schoene

Charles A. Schoene,
Commander, C&GS

Approved and Forwarded:

Curtis Le Fever

Curtis Le Fever,
Commander, C&GS
Comdg., Ship LESTER JONES

LIST OF SIGNALS ON SURVEY H-8084 (LJ-1153)

TRIANGULATION STATIONS

ALE	ALERT	1953
ARG	ARGYLE	1897-1940
AVE	AVENUE	1897-1940
BIG	BIG ROCK	1897-1940
BOL	BOLDA	1940
BRO	BROWN	1940
CAT*	CATTLE PT.LT.	1940
DAN	DANGER	1889-1940
DIN	DINNER ID.	1897-1940
FLAT	FLAT	1940
HAR	HARBOR RK.	1897-1940
KENT	KENT	1940
LIT	LITTLE ID.	1897-1940
LOW	LOW POINT	1897-1940
MAG	MAGNETIC	1897
MAT	MAT	1889-1940
OLD	OLD	1897-1940
PEAR	PEAR	1897-1940
RED	RED	1889-1940
ARK	SHARK REEF	1897-1940
SHAW	SHAW S.E.	1889-1940
RON	STRONG	1894-1940
RIP	TIDE RIP	1897-1940
TOM	TOM	1897-1940
TURN	TURN2	1940
ROCK	TURN ROCK LT.	1940
TRAP	TRAP	1940

TOPOGRAPHIC STATIONS

Theod. Cuts	Photo-Topo Stations	Sheet "C"-53	Sheet "E"-53
ABE	AXE	BED	OWL
ACE	BOX	DEB	
BAG	CUR	EAT	
BAT	DOT	FEW	
CAB	EBB	GAL	
CAN	FUN	GAM	
DAY	FLAG POLE	HER	
DOG	HOW	ION	
EAR	IDA	KEN	
ELK	JOE	LAX	
EVA	KEY	MAG	
FAT	KIM	NAY	
FOX	LIZ	OHM*	
GAB	LUX	PAW	
HAT	MOO	REV	
HEX	MUM	SAD	
IKE	NIL	TAP	
IVY	NUT		
JAP	OAK		
JIG	OHM**		
KEL	PRO		
KID	QUA		
LAM	RUM		
MAX	SLY		
NIG	TUB		
NOR	UMP		
ODD	VAL		
PAD	WEE		
PEP	YAK		
RIM	ZIG		
TOY			
VAN			
VEX			
WHO			
WIT			
YES			
YET			
ZAG			
LEG, JOY }	from H-8087		

HYDROGRAPHIC STATIONS

ACT
BOB**
CAT*
LAG
RAG
RAN
RAT
SAM
TAX

* Two signals with same name.

** Signals (OHM Photo-Topo) and BOB (Hydrographic) may not have been used by the hydrographic party.

TIDE NOTE

HYDROGRAPHIC SURVEY H-8084 (FIELD NO. LJ-1153)

Three tide stations were used for this survey: The standard gage at Friday Harbor and portable gages at Argyle-North Bay and Lopez, Lopez Island.

(a) FRIDAY HARBOR: A standard gage located on the Cantilever Pier at the University of Washington Oceanographic Laboratory (Lat. 48°-32.8', Long. 123°-00.4'). 4.65 ft. on the tide staff corresponds to the plane of MLLW. Hourly heights were furnished by the Washington Office for this gage. This station was used on one day only, 26 October 1953 (ag day) for the northerly part of the survey (vicinity of Turn Rock).

(b) LOPEZ, Lopez Island: A portable gage located on the County Wharf at Lopez, Washington (Lat. 48°-31.3', Long. 122°-54.9'). 4.9 feet on the tide staff corresponds to the plane of MLLW. Hourly heights were scaled from the marigrams before they were sent to Washington Office. This station was used on 5 days: 25 June (D day) and 21-24 August (ac,ad,ae & af days). The station was used for all the sounding in Fisherman Bay and for some of the sounding on the northerly part of the survey in the vicinity of Turn Rock.

(c) ARGYLE, North Bay, San Juan Island: A portable gage located on the fishing boat pier at Jackson's Cannery in North Bay (Lat. 48°-31.1', Long. 123°-00.8'). Hourly heights were scaled from the marigrams before they were sent to Washington Office. This station was used to furnish reducers for all the survey except as listed previously in subparagraphs a & b.

No time or range corrections were applied to any of the tidal data on this survey.

STATISTICS

HYDROGRAPHIC SURVEY NO. 8084 - (FIELD NO. LJ-1153)

DATE	VOL. NO.	DAY LTR.	NO. OF POS.	STAT.MI. SNDG.	L.L. SNDGS.
1953			Launch 92		
5/7	1&2	a	211	30.7	- -
5/8	2	b	134	20.5	- -
5/10	2,3,4	c	259	47.0	- -
5/11	4&5	d	260	38.9	- -
5/12	5&6	e	195	29.3	5
5/13	6&7	f	220	32.4	5
5/14	7&8	g	207	29.0	3
5/21	8&9	h	215	29.0	- -
5/23	10&11	j	244	32.4	- -
5/24	11&12	k	213	24.5	2
5/25	12&13	l	130	13.8	26
5/26	13	m	150	14.5	7
5/27	13&14	n	163	13.0	24
5/28	14&15	p	172	13.4	11
6/4	15&16	q	142	20.7	- -
6/5	16&17	r	236	27.7	- -
6/6	17&18	s	255	35.8	- -
6/7	18&19	t	217	27.7	- -
6/8	20&21	u	219	22.4	- -
6/9	21&22	v	218	25.6	- -
6/10	22&23	w	186	18.7	10
6/11	23	x	161	15.3	16
6/21	24	y	28	1.3	- -
6/22	24	z	171	14.0	11
6/25	24	ab	29	- - -	57
8/21	25	ac	157	17.2	3
8/22	25&26	ad	173	14.6	1
8/23	26&27	ae	132	10.0	10
8/24	27	af	15	- - -	15
10/26	27	ag	82	5.6	18
Total	Launch 92		5194	625.0	224
			Ship LESTER JONES		
5/8	28	A	115	27.1	- -
5/9	28&29	B	245	57.0	- -
5/22	29,30,31	C	249	48.9	- -
6/25	31	D	9	1.4	- -
Total Ship			618	134.4	- -
Total Launch 92			5194	625.0	224
Total Skiff			224	- - -	127
Totals for Sheet			6036	759.4	351

DATE	DAY LTR.	NOS.OF POS.	L.L. SNDGS.
	16 Ft. Skiff - Vo. No. 32		
5/10	a	37	- - -
5/11	b	20	One -
5/12	c	12	12
5/13	d	12	7
5/14	e	9	1
5/25	f	31	19
5/26	g	30	24
5/27	h	3	3
5/28	j	21	18
6/8	k	21	20
6/9	l	11	5
6/10	m	9	9
6/11	n	8	8
Total Skiff		224	127

Total area of survey is 23.2 sq. stat. miles.

FATHOMETER CORRECTIONS

SURVEY H-8084 (FIELD NO. LJ-1153)

808 FATHOMETERS NO. 75 & NO.102

LAUNCH NO. 92

From	To	Corr.Fathoms
0.0	5.0	+0.2
5.1	11.3	+0.3
11.4	19.5	+0.4
19.6	27.8	+0.5
27.9	36.4	+0.6
36.5	44.5	+0.7
44.6	52.9	+0.8
53.0	61.4	+0.9
61.5	69.7	+1.0
69.8	78.2	+1.1
78.3	86.5	+1.2

LESTER JONES

From	To	Corr.Fathoms
0.0	5.6	+0.3
5.7	14.0	+0.4
14.1	22.4	+0.5
22.5	30.8	+0.6
30.9	39.2	+0.7
39.3	47.4	+0.8
47.5	55.9	+0.9
56.0	64.0	+1.0
64.1	72.1	+1.1
72.2	81.0	+1.2
81.1	89.8	+1.3

From	To	Corr. Feet
0.0	12.0	(-)0.2
12.1	24.0	± 0.0
24.1	36.0	+0.2
36.1	48.0	+0.4

PHASE CORRECTIONS

Fath. No.75		Fath. No.102	
Scale	Corr. Fms.	Scale	Corr. Fms.
"B"	+0.5	"B"	(-)2.6

Copy ✓ CAS

E. Smooth Sheet

The smooth sheet was hand constructed in the Seattle Processing Office using standard methods.

G. Shoreline and Topography

Discrepancies in junctions were noted in shoreline between photo shoreline and the original planetable shoreline at Lat. 48° 28' Long. 123° 00', T-5592 and T-2301, also between T-5591S and T-2230 at Lat. 48° 31' 30", Long. 123° 00'. The latter was mentioned in the report on H-8087. Review, par. 1. T-6906 (1942) shoreline used east of long. 123°00'

Shoreline transferred to this sheet from original surveys is from T-1955, T-2230, T-2301 and T-2302. (1897) et al (1889) (1895) (1897) } see Review, par. 1

K. Crosslines

Soundings on crosslines are in good agreement and no discrepancies are noted.

M. Comparison with contemporary survey

The junction with H-8087 (1953) has been compared and found to be in agreement.

N. Dangers and Shoals

In addition to the shoals and dangers listed in the field report, two others are noted -

2 fms at Lat. 48° 30' 02", Long. 123° 00' 25", pos. 150-151w, Vol.22
3 fms at Lat. 48° 30' 40", Long. 123° 00' 30", pos. 6-7r, Vol. 16

Under item "z" in the field report the fathometer and handlead soundings do not agree. The fathometer being shoaler by differences from zero to 1.8 fms. The bottom is rocky, this may account for the differences. There are no notes in the record to indicate marine growth and the fathograms do not look like it either. Differences in depths between smooth sheet and boat sheet are shown as inked corrections in field report.

R. Geographic Names

Diffs. attributed to boulders or sharp irregularities in rocky bottom. Shoalest depths shown on smooth sheet

The geographic names on the smooth sheet were taken from the chart, listed as follows:

Brown Island	Deadman Island	Flat Point
Canoe Island	Dinner Island	Fish Creek
Cattle Point	Fisherman's Bay	Friday Harbor

Goose Island	North Bay	Rock Point
Harbor Rock	Parks Bay	Shark Reef
Halftide Rock	Pear Point	Shaw Island
Indian Cove	Point George	Squaw Bay
Lopez Island	San Juan Channel	Turn Island
North Pacific Rock	San Juan Island	Upright Channel

Respectfully submitted,

William M. Martin

William M. Martin
Cartographer, C&GS

Approved and forwarded:

Charles Pierce

Charles Pierce, Captain, C&GS
Supervisor, NW District

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8084....

Records accompanying survey:

Boat sheets .1...; sounding vols. 32...; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls .....;

special reports, etc 2 transmitting letters, 1 smooth sheet, 5 envelopes of

..fathograms, 1 envelope of overlay tracings.....

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

Number of positions on sheet		6036
Number of positions checked		273
Number of positions revised		22
Number of soundings revised (refers to depth only)		914 *
Number of soundings erroneously spaced		500
Number of signals erroneously plotted or transferred		—
Topographic details	Time	80
Junctions	Time	40
Verification of soundings from graphic record	Time	65

Verification by C. F. Kupiec Total time 644 Date .....

Reviewed by J. A. Dinsmore Time 64 Date 17 May 1956

* Includes numerous minor corrections for varying initial and changes to improve curves & crossings

M-2232-1

Form 537
(Ed. June 1946)

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. 8084

Field No. .....

State Washington

General locality San Juan ~~Islands~~ Archipelago

Locality San Juan Channel

Scale L ; 20,000 Date of survey 12 April - 13 April, 1955

Instructions dated .....

Vessel HODGSON, USC & GSS Launch 176

Chief of party Paul Taylor

Surveyed by M.J. Tonkel

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

Fathograms scaled by .....

Fathograms checked by .....

Protracted by .....

Soundings penciled by .....

Soundings in fathoms feet at MLW MLLW .....

REMARKS: .....

U. S. GOVERNMENT PRINTING OFFICE 777032

DESCRIPTIVE REPORT

TO ACCOMPANY

SPECIAL SHOAL INVESTIGATION, SAN JUAN CHANNEL,

SAN JUAN ISLANDS, WASHINGTON

In accordance with the revised instructions: Project CS-1241 (Paragraph 22, Additional Hydrography on H-8084), dated 7 January 1955, an investigation was made of the 3/4 fathom shoal area indicated. The survey disproved the shoal location on Canadian Chart 3448.

The area of work was in the general vicinity of Lat. 48° 30' 05", Long. 123° 00' 00", and is located on Hydrographic Sheet H-8084. Work was accomplished on 12 and 13 April 1955.

The survey was accomplished using Launch No. 176 for fathometer work and No. 134 for leadline work, each launch operating from the USC&GSS HODGSON which layed-to nearby during the process of the investigation.

An 808 type portable fathometer No. 106S was used exclusively.

Tide reductions were not entered as the Friday Harbor standard gage hourly heights were not available. In reducing the soundings for the boat sheet, predicted tides for Friday Harbor referenced to Port Townsend were used.

The following three triangulation stations were used for control of the survey:

PEAR, 1897, 1940 (San Juan Co., Wash.) J.J.G. 1897; CWC 1950
DINNER ISLAND (San Juan Co., Wash.) J. J. G. 1897; CWC 1950
TOM, 1897, 1940 (San Juan Co., Wash.) J. J.G. 1897; CWC 1950

Depths were obtained by usual methods using 808 portable fathometer. A pattern system of lines were run over both the shoal area as appears on H-8084 and the point as shown on Canadian Chart 3448. Corrections for fathometer soundings were obtained by setting the bar at 2.0 fathoms and adjusting the fathometer reading to that depth. The initial was then held accordingly at the 0.2 fathom reading obtained. Any variation from the bar check initial was entered as an algebraic reduction. Corrections for velocity based on temperature and salinity observations were used for depths greater than 2.0 fathoms. All corrections, except for tide, have been entered and checked.

During the process of the work, another launch (No. 134) was used to feel over the area with leadline. Approximately one and one-half hours were spent. No leadline soundings were recorded as no depths were found less than those originally shown on Sheet H-8084. The general depth at the point shown as 3/4 fathoms on the Canadian Chart was found to be over 20 fathoms. The least depth found northeast of this point at Lat. 48° 30' 08", Long. 123° 00' 07" was 1.5 fathoms. The 3/4 fathom depth shown at this point on H-8084 was not found. The bottom is rocky and very irregular and a 3/4 fathom pinnacle in the kelp area could have been missed by both fathometer and leadline.

0.9 fm. on smooth sheet

There is no indication of depths less than 20 fathoms at the Canadian 3/4 fathom location, and it is therefore believed to be disproved.

Records being forwarded along with this report are as follows:

1 - Hydrographic Sounding Volume
2 - Fathograms (a and b days)
1 - Hydrographic Sheet H-8084 (Boat Sheet)
1 - Hydrographic Sheet (This investigation)
1 - Sheet of Tabulation of Velocity Corrections (Form J-100-5)
1 - Sheet of Temperature and Salinity Observations

It is requested that the Office check the determination and application of the velocity corrections. Seems OK

Respectfully submitted,

M. J. Tonkel,
Lt. CDR, USC&GS

Approved and forwarded:

Paul Taylor

Paul Taylor,
CDR, USC&GS
Comdg., Ship HODGSON

Form No J-100-5 +0.6 +0.4 +0.2 0.0 (Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

CORRECTIONS IN FEET, FATHOMS

10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190

DEPTHS IN FATHOMS

(For deep water add a 0 to these figures)

VELOCITY CORRECTIONS
U.S. Coast and Geodetic Survey
Ship Hodgson Comdg.

These corrections are to be used between 12 Apr 1955 and 13 Apr 1955 in the locality San Juan Channel

for hydrographic surveys Nos. Special Shoal Investigation

Corrections
Fathoms

0.0	to	8.0	fms.
+0.1	"	20.7	"
+0.2	"	33.6	"
+0.3	thru	42.0	"

Fathometer set to read correct on bar sub at 2.0 fms.

SERIAL NO. 2 5/16/55

Depth of Oscillators - 0.8 foot (Use 0.1 fms.)

Mid-Point
5 fm. layer

DEPTH	TEMP.	SALINITY
fms.	°/C	o/oo
2.6	8.5	30.1 T
7.6	8.5	30.1 T
12.6	8.5	30.1 T
17.6	8.4	30.1 T
22.6	8.4	30.1 T
27.6	8.4	30.2 T
32.6	8.4	30.2 T
37.6	8.4	30.2 T
42.6	8.4	30.2 T
47.6	8.4	30.2 T
52.6	8.4	30.2 T
57.6	8.4	30.2 T
62.6	8.4	30.2 T

VELOCITY CORRECTIONS

U. S. Coast & Geodetic Survey
Ship HODGSON

These corrections are to be used between 12 Apr. 1955 and 13 Apr. 1955 in the locality San Juan Channel

for hydrographic Surveys Nos. H-8048

Special Shoal Investigation

CORRECTIONS FATHOMS
0.0 to 8.0 fms.
+0.1 to 20.7 fms.
+0.2 to 33.6 fms.
+0.3 thru 42.0 fms.

FATHOMETER SET TO READ CORRECT ON BAR AT 2.0 fms.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8084. (Add'l work of 1955)

Records accompanying survey:

Boat sheets 1; sounding vols. 1; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 1 envelope

special reports, etc. 1-Descriptive Report.

.....

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

Number of positions on sheet		86
Number of positions ~~checked~~ re-plotted on overlay		86
Number of positions revised		—
Number of soundings revised (refers to depth only)		8
Number of soundings ~~erroneously spaced~~ added regular 15 min. and odd time interval		77
Number of signals erroneously plotted or transferred		—
Topographic details	Time	None
Junctions	Time	None
Verification of soundings from graphic record	Time	3 hrs

Verification by Chester F. Rupiec Total time 28 hrs Date Mar 22, 1956

Reviewed by See first statistics sheet Time ..... Date .....

Verification time includes plotting (all positions) and sndgs on overlay and, partially, on smooth sheet.

M-2232-1

Form 537a
Ed. Nov. 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

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

Field No. LJ-C-53

REGISTER NO.

State WASHINGTON

General Locality LOPEZ ISLAND

Locality FISHERMANS BAY FISH CREEK

Scale 1:10,000 Date of survey AUGUST, 1953

Vessel Ship LESTER JONES

Chief of party Kenneth S. Ulm

Surveyed by Jack E. Guth

Inked by Jack E. Guth

Heights in feet above ..... to ground to tops of trees

Contour, Approximate contour, Form line interval ..... feet

Instructions dated ....., 19.....

Remarks: .....

GPO 266853

DESCRIPTIVE REPORT

TO ACCOMPANY
GRAPHIC CONTROL
~~TOPOGRAPHIC~~ SHEET C-53

USC&GSS LESTER JONES

Kenneth S. Ulm, Commander, C&GS
Chief of Party

AUTHORITY:

Authority for this survey was the Director's Instructions, Project CS-241, to the Commanding Officer, Ship LESTER JONES, 11 March 1953 and Supplemental Instructions, 8 May 1953.

LIMITS:

The sheet extends between Longitudes 122° 54' 30" and 122° 56' 00", and Latitudes 48° 30' 00" and 48° 31' 30".

CONTROL:

The control for this survey was furnished by second order triangulation executed by J.J.G. in 1889, 1894, 1897 and L.C.W. in 1940. The triangulation station ALERT 1953 was established for use in control of this sheet.

SURVEYING METHODS:

Signals were located by intersections or traverse. Standard practice was followed throughout the sheet.

Signal location was given priority and only that shoreline which could be rodded in without additional planetable set-ups was located. The shoreline agreed with the topography done in 1903 with the exception of the southwest end of the bay where the land is low and muddy. An additional number of rod readings were made at ALERT to determine the present high and low water lines in this area.

Piers and pilings were located by intersections and sextant angles.

GENERAL DESCRIPTION OF THE COAST:

In general the shore has a very gradual sloping beach and mostly of mud which makes landing difficult without wading. The entrance channel at the north end has a much steeper slope. The eastern shore of the bay has a dirt bluff of about 10 feet just behind the high water line, and tapers off to the north and south. At the south end a low grass and mud spit extends northwestward between the bay and a mud lagoon that fills with water at high tide. The west side of the bay has in general a mud bank back of high water of about 6 feet. At signal DEB there is a rock outcrop about 12 feet high. At signal HER is a low rocky point. The north end of the bay is low and grassy.

GRAPHIC NAMES:

The geographic names that appear on Chart No. 6480 are adequate.

STATISTICS:

Number of hydrographic signals located	20
Statute miles of shoreline	0.7

Respectfully submitted,

Jack E. Guth

Jack E. Guth,
Ensign, C&GS

Approved and Forwarded,

Kenneth S. Ulm

Kenneth S. Ulm,
Commander, C&GS
Comdg., Ship LESTER JONES

All useful information has been transferred from this graphic control survey to H-8084 (1953-55) after which the G.C. sheet was destroyed.

J. A. Dinsmore
17 May 1956

FISH CREEK:

Hydrographic signals in Fish Creek could not be located by intersection from triangulation stations or by photographic methods. Only three hydrographic signals were involved and in order to expedite the location of the signals for the hydrographic party the following method was used. Triangulation station MAGNETIC 1897 was occupied with a planetable. The back of topo sheet Field No. C-53 was used without a projection as a very small area was involved. An orientation was made on triangulation station LOW POINT 1897, 1940 and the signals located by rod readings. Two piles, one of which is hydrographic signal DAY were also located. It is recommended that the signals be transferred to the smooth sheet by using the azimuth line MAGNETIC 1897 - LOW POINT 1897, 1940, which appears on the sheet for orientation. (This was done)

Fish Creek provides splendid shelter for very small fishing boats.

Kenneth S. Ulm,
Commander, C&GS

GEOGRAPHIC NAMES

Survey No. H-8084

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		
Washington									B.G.N.	1
San Juan Archipelago			(not Islands)						"	2
San Juan Island										3
San Juan Channel										4
Cattle Point										5
Goose Island										6
Fish Creek										7
Harbor Rock										8
Griffin Bay										9
North Pacific Rock										10
Halftide Rock										11
Jenson Bay		(not Jensen)								12
Mulno Cove										13
Dinner I										14
Argyle			(tide station)							15
North Bay										16
Pear Point										17
Friday Harbor			(body of water only) (tide station)							18
Turn Island										19
Shaw Island										20
Upright Channel										21
Lopez			(tide station)							22
Fisherman Bay										23
Rock Point				Names approved 1-11-55. other names on Smooth sheet are also approved if desired. L. Heck						24
Lopez Island										25
Shark Reef										26
Deadman Island									B.G.N.	27

M 234

RH C

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography:~~ 25 January 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
32 volumes of sounding records for

HYDROGRAPHIC SHEET 8084

Locality San Juan Islands, Washington

Chief of Party: K. S. Ulm in 1953
Plane of reference is mean lower low water, reading
3.8 ft. on tide staff at Argyle, North Bay
11.6 ft. below B. M. 1 (1903)

4.9 ft. on tide staff at Lopez
8.9 ft. below B. M. 1 (1903)

3.6 ft. on tide staff at Friday Harbor
18.7 ft. below B. M. 2 (1932)

Height of mean high water above plane of reference is as follows:

Argyle, North Bay = 6.7 feet
Lopez = 6.7 feet
Friday Harbor = 7.0 feet

Condition of records satisfactory except as noted below:

E. C. McKay
Tides Bran

Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 750675

R.H.C. by JAS

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast & Geodetic Survey~~ 14 September 1955

Division of Charts: R. H. Carstens

Plane of reference approved in
1 volumes of sounding records for

HYDROGRAPHIC SHEET 8084

Locality San Juan Islands, Washington

Chief of Party: Paul Taylor
Plane of reference is mean lower low water
3.6 ft. on tide staff at Friday Harbor
12.1 ft. below B. M. 1 (1932)

Height of mean high water above plane of reference is 7.0 feet

Condition of records satisfactory except as noted below:

William Shafer

Acting Chief, ~~Division of~~ Tides ~~and Currents~~ Branch

U. S. GOVERNMENT PRINTING OFFICE 877933

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8084 FIELD NO. LJ-1153

Washington, San Juan Archipelago, San Juan Channel

Project No. CS-241

Surveyed- April, Oct. 1953
April, 1955

Scale 1:10,000

Soundings:

808 Fathometer
Hand lead

Control:

Sextant fixes on
shore signals

Chief of Party - K. S. Ulm and P. Taylor
Surveyed by - K. S. Ulm, C. A. Schoene, J. E. Guth and M. J. Tonkel
Protracted by - C. R. Lehman
Soundings plotted by - C. R. Lehman
Verified and inked by . C. F. Kupiec
Reviewed by - T. A. Dinsmore 17 May 1956
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline on the smooth sheet originates with the following sources:

(a) West of 123°00' from unreviewed air-photographic surveys T-5591 and T-5592 of 1953-54.

(b) East of 123°00' from T-1955 (1889), T-2230 (1895), T-2301 (1897), T-2302 (1897), T-6900a (1941) and T-6906 (1942).

(c) Piers and sections of shoreline shown in red in the vicinity of Fisherman Bay are from graphic control survey LJ-C-53. Inasmuch as all useful information has been transferred to the present smooth sheet, the graphic control sheet will be destroyed and the Descriptive Report enclosed with that of the present survey.

(d) Rocks, reef and ledge symbolization shown in red along the south and western shoreline is from T-2301 (1897).

Many minor and some major discrepancies existed between elevations and locations of rocks on the present survey and those shown on T-5591 and T-5592 of 1953-54. These discrepancies were resolved by the verifier and photogrammetric reviewer by evaluating all pertinent field records. The hydrographic and topographic surveys are now in agreement.

The origin of the signals is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in very good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

Numerous small reefs, rocky shoals, and pinnacle rocks rising sharply from deep water contribute to the general irregularity of the bottom. Ledge outcropping and rocks awash fringe much of the shoreline, most noticeably on the west. Depths through the natural channel range from 42 - 75 fms.

4. Adjoining Surveys

Adequate junctions were effected between the present survey and H-6746 (1942-43) on the south and with H-8087 (1953) on the northwest. Project surveys on the northeast have not as yet been received in this office. However, charted depths at the northeastern limits of the present survey are in harmony with the present-survey depths.

5. Comparison with Prior Surveys

a. H-333 (1852), 1:214,240

This early small-scale reconnaissance survey may be disregarded as lacking sufficient reliable information for a comparison of any value.

b. H-2213 (1894), 1:10,000 H-2642 (1903), 1:10,000
H-2641 (1903-04), 1:10,000

These prior surveys taken together cover the area of the present survey. A comparison of the prior and present depths reveals no changes in bottom. However, the present survey reveals many shoals and pinnacle rocks not disclosed by the sparse sounding lines on the prior surveys. The more thorough coverage on the present survey also defines the bottom configuration more completely and clearly.

The following discrepancies are noted:

(1) The 20-fm. sounding previously charted in lat 48°32.62', long. 122°56.48', from H-2213 should be disregarded. Falling in depths of 30 fms. on both the prior and present surveys, the prior sounding is probably 10 fms. in error.

(2) The 19-fm. sounding charted in lat. 48°30.67', long. 122°56.38', from H-2642 should be disregarded. Falling in present depths of 24 fms., the prior sounding is considered to be out of position and should actually fall on the slope about 80 meters eastward where comparable depths occur on the present survey.

(3) The 9-fm. sounding charted in lat. 48°30.85', long. 123°00.18', from H-2642 together with several uncharted soundings on the same sounding line should be disregarded. Depths on this prior sounding line are in disagreement with crossline depths on the same survey as well as with the present survey. The prior 9-fm. sounding (9¼ fms.,-smooth sheet) falls in depths of 14 - 16 fms. on the present survey. The present development is adequate to disprove the prior soundings which are considered to be erroneous in depth or position.

(4) The 28-fm. sounding charted in lat. 48°29.06', long. 122°58.46', from H-2642 should be disregarded. Falling in smooth-bottom depths of 38 fms. on both the prior and present surveys, the prior sounding is apparently 10 fms. in error.

(5) The 33-fm sounding charted in lat. 48°30.7', long. 122°57.5', from H-2642 should be disregarded. Falling in smooth-bottom depths of 43 fms. on both the prior and present surveys, the prior sounding was probably read or recorded 10 fms. in error.

A few soundings, rocks and bottom characteristics have been retained from the prior surveys. With the indicated additions, the present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 6379 (C. P. Drawing No. 3)
Chart 6380 (Latest print date 7/25/55)

A. Hydrography

Charted hydrography originates principally with the previously discussed surveys which need no further consideration. Only certain critical information from the present survey

has been applied to the charts, prior to verification and review. No important changes to this information was made during verification and review. The row of four piling charted in lat. 48°27.8', long. 122°58.5', from Chart Letter 725 (1950) represent booming piles enclosing a log boom area. The hydrographer states that the only piles remaining are two represented by signals Hex and Fat.

The present survey entirely supersedes the charted information.

B. Aids to Navigation

There are no floating aids to navigation charted within the limits of the present survey. The fixed aids to navigation are charted from positions determined by triangulation in 1940 and adequately mark the features intended.

7. Condition of Survey

(a) The sounding records are complete; the Descriptive Report covers all matters of importance.

(b) The smooth plotting was generally accurate.

(c) A small amount of additional development was accomplished on this survey in April 12-13, 1955. The purpose of the additional work was to investigate a 3/4-fm. sounding charted in lat. 48°30.03', long. 122°59.91', on Canadian Chart 3448. Falling in present-survey depths of 20 fms., no shoal indications were found in the above locality. The 3/4-fm. sounding is probably out of position on the Canadian Chart and should actually fall about 280 meters northwestward where comparable depths were obtained on the present survey. The additional work is described in detail in the supplemental Descriptive Report which includes a tracing overlay of the plotted soundings. Critical depths on the overlay have been transferred to the smooth sheet. The additional work was plotted in the Washington Office.

(d) Descriptions of some hydrographic signals penciled on the boat sheet had become illegible because they were not inked in the field. These could not be added to the smooth sheet.

(e) The shoreline from surveys T-6906 (1942) and T-6900a (1941) should have been applied to the present survey by the smooth plotter in place of shoreline from portions of T-2301 (1897) and T-2302 (1897 which were applied. The transfer of the proper shoreline from the more recent surveys was made by the verifier.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work

This is an excellent basic survey and no additional field work is required.

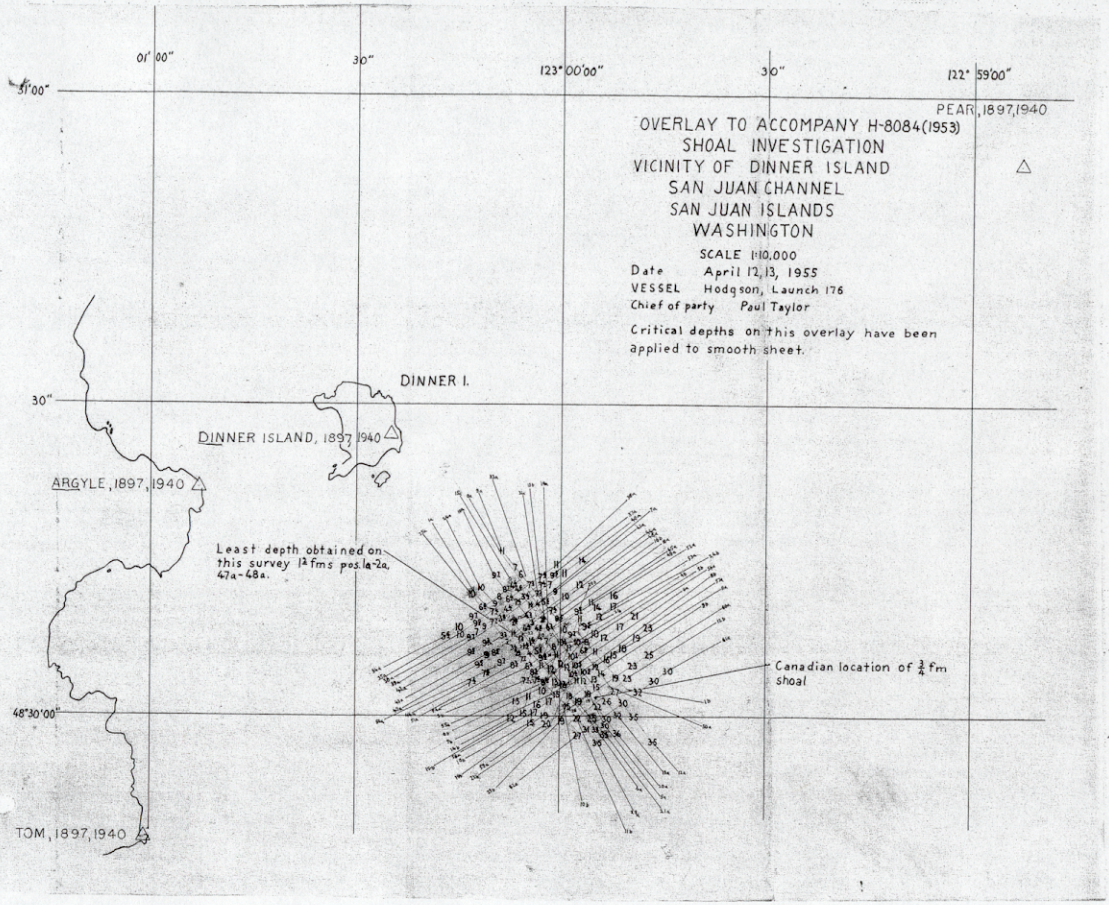
Examined and Approved:

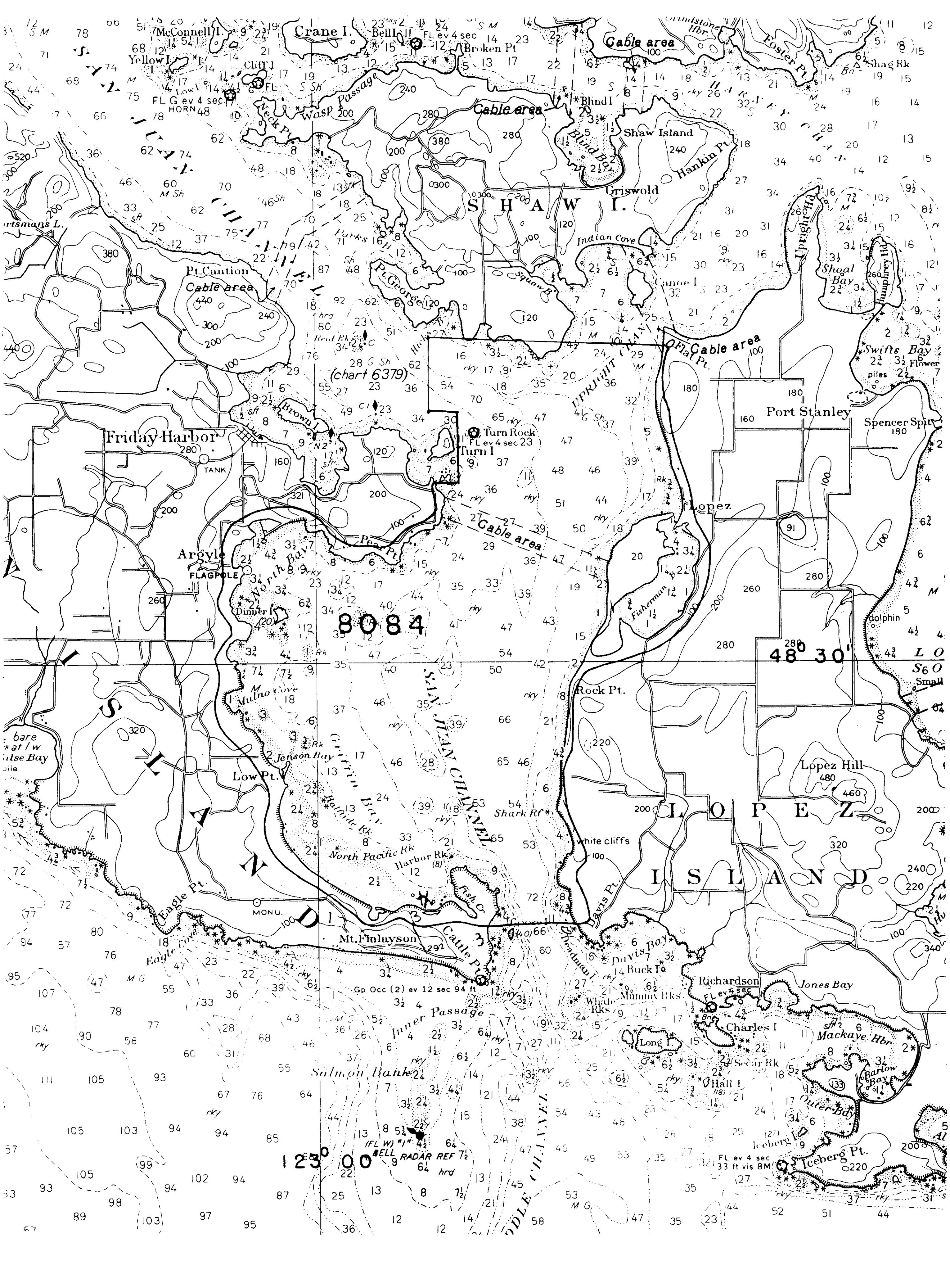
H. R. Edmonston
Chief, Nautical Chart Branch

Charles A. Schanck
Acting Chief, Chart Division

J. C. Bull
Chief, Hydrography Branch

S. B. Grenell
~~Earl O. Heaton~~
Chief, Division of Coastal Surveys


01' 00"
30"
123° 00' 00"
30"
122° 59' 00"
48° 31' 00"
30"
48° 30' 00"
PEAR, 1897, 1940
OVERLAY TO ACCOMPANY H-8084 (1953)
SHOAL INVESTIGATION
VICINITY OF DINNER ISLAND
SAN JUAN CHANNEL
SAN JUAN ISLANDS
WASHINGTON
SCALE 1:10,000
Date April 12, 13, 1955
VESSEL Hodgson, Launch 176
Chief of party Paul Taylor
Critical depths on this overlay have been applied to smooth sheet.
DINNER I.
DINNER ISLAND, 1897, 1940
ARGYLE, 1897, 1940
Least depth obtained on this survey 12 fms pos. 1a-2a, 47a-48a.
Canadian location of 3/4 fm shoal
TOM, 1897, 1940



McConnell I.
Crane I.
Bell I
FL ev 4 sec
Broken Pt
Yellow I.
Cliff I
FL G ev 4 sec
HORN
Cable area
Foster Pt.
Shag Rk
SAN JUAN CHANNEL
Neck Pt.
Wasp Passage
Blind I
Shaw Island
Blind Bay
Hankin Pt.
HARNEY CHAN
Griswold
SHAW I.
Parks B
Pt. Caution
Indian Cove
Upright Hd
Shoal Bay
Humphrey Hd
Pt. George
Squaw B
Canoe I
Real Rk
(chart 6379)
Flat Pt.
Swifts Bay
Flower
piles
UPRIGHT CHAN
Brown I.
Friday Harbor
TANK
Turn Rock
FL ev 4 sec 23
Turn I
Port Stanley
Spencer Spit
Lopez
Pear Pt.
Argyle
FLAGPOLE
North Bay
Dinner I.
8084
Fisherman B
dolphin
48° 30'
Mulno Cove
Rock Pt.
Small
bare at l/w
False Bay
Jenson Bay
Griffin Bay
Low Pt.
Halftide Rk
Lopez Hill
Shark Rf
LOPEZ ISLAND
white cliffs
North Pacific Rk
Harbor Rk
Fish Cr.
SAN JUAN ISLAND
Eagle Pt.
MONU.
Davis Pt.
Mt. Finlayson
Cattle Pt
Eagle Cove
Deadman I
Davis Bay
Buck I
Richardson
Jones Bay
Gp Occ (2) ev 12 sec 94 ft
Whale Rks
Mummy Rks
FL ev 4 sec
Charles I
Inner Passage
Mackaye Hbr
Long I
Secar Rk
Salmon Bank
Hall I
Barlow Bay
Outer Bay
(FL W) "1"
BELL
RADAR REF
Iceberg I
FL ev 4 sec 33 ft vis 8M
Iceberg Pt.
123° 00'
MIDDLE CHANNEL

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8084

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
21 Jan 55	6382	Ernest H Bell	Revised some currs & added newer critical soundings Before ~~After~~ Verification and Review Partially applied
4-13-55	6379	R. K. DeLaubenfels	Partially applied Before ~~After~~ Verification and Review
4-14-55	6380	R. K. DeLaubenfels	Partially applied Before ~~After~~ Verification and Review Area above 48°31'20" thru chart 6379. Area below 48°30' thru chart 6382.
9-8-55	6300	R. K. DeLaubenfels	Partially applied Before ~~After~~ Verification and Review thru chart 6380.
4/5/57	6379	F. A. McGann	~~Before~~ After Verification and Review FAMcG Completely applied.
4/5/57	6380	F. A. McGann	~~Before~~ After Verification and Review Completely applied.
8-7-57	6300	Earl M. Progoff	~~Before~~ After Verification and Review completely applied thru chart 6380
11-4-61	Small Craft 184	R. K. DeLaubenfels	~~Before~~ After Verification and Review. Appld 78 1:25,000 insets.
2-24-64	6382	G. R. Johnson	~~Before~~ After Verification and Review Fully appl'd thru cht 6380
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

NAUTICAL CHARTS BRANCH

SURVEY NO. ~~H-8084~~ (Add'l work of 1955)

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9-9-55	6300	R.K. DeLaunder	Partially applied Before ~~After~~ Verification and Review Added 1½ fathom sounding.
	1		Before After Verification and Review
4/5/57	6380	J.A. McGann	~~Before~~ After Verification and Review
8/57	6300 &	Bragonje	~~Before~~ After Verification and Review thru 6380
4.1.80	NEW CHART 18434	P. SHUMAR	APPLIED FULLY ~~Before~~ After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.