8318

Diag. Cht. No. 6380-2.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

1956 ADDENDA

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HO-1555 Office No. H-8318

LOCALITY

State WASHINGTON

General locality WASHINGTON COAST

Locality NORTH BELLINGHAM CHANNEL & ROSARIO STRAIT

1955 & 1956

CHIEF OF PARTY

K. B. JEFFERS & Paul Taylor

LIBRARY & ARCHIVES

DATE September, 1959

COMM-DC 61300

8318

420 apf
427 apf
421
423
426

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-8318

Field No. HO-1555

State Washington

General locality Washington Coast

Locality Northern approaches & northern half of Bellingham Channel & Rosario Strait

Scale 1:10,000 Date of survey October - November 1955

Instructions dated 22/SRO S-2-HO dated 7 Jan. 1955

Vessel Ship HODGSON

Chief of party Paul Taylor

Surveyed by R. C. Munson and J. P. Randall and Paul Taylor

Soundings taken by fathometer, graphic recorder, ~~xxxxxxxxxx~~re

Fathograms scaled by John L. Earhart, Leo F. Hughes & H. W. Hildahl

Fathograms checked by Ann M. Legako and J. P. Randall

Protracted by H. C. Parsons

Soundings penciled by H. C. Parsons

Soundings in fathoms ~~feet~~ at ~~MLLW~~ MLLW

REMARKS:

[redacted]

U. S. GOVERNMENT PRINTING OFFICE 693019

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY _____, SHEET NO. HO-1555(Field)

SCALE 1:10,000 SHIP HODGSON PAUL TAYLOR, COMDG.

SURVEYED BY: R. C. MUNSON, J. P. RANDALL & P. TAYLOR

A. PROJECT

This survey was executed as part of Project 1241 under revised instructions No. 22/SRO, S-2-HO, dated 7 January 1955.

B. SURVEY LIMITS AND DATES

This survey is on a skew sheet that covers the northern approaches to, and northern half of Bellingham Channel and Rosario Strait above Lat. 48 - 34'N.

Field work began on 5 October 1955 and was not completed during the 1955 field season.

This survey is joined on the southwest by Field Survey Sheets HO-1255, on the west by HO-1455 and on the southeast HO-1355.

C. VESSELS AND EQUIPMENT:

This survey was executed by the survey launches Nos. 176 and 177 and the Ship HODGSON.

Turning radius for the ship are:

Full rudder - std. speed - 136 meters
Full rudder - 2/3 speed - 120 meters
Half rudder - std. speed - 182 meters
Half rudder - 2/3 speed - 186 meters

808 fathometers No. 62S and 106S with reeds calibrated for a velocity of 800 fathoms per second and a new portable Edo No. 207 were used for hydrography on this survey.

D. TIDE AND CURRENT STATIONS

A portable automatic tide gage was maintained on the southwest end of Sinclair Island, Urban Landing, Lat. 48 - 36.98N, Long. 122 - 48.58W during the time of the sounding and was used without time or height correction for the reduction of all soundings throughout limits of completed survey.

Three (3) current stations were maintained during this survey, and within the limits of this sheet. They were:

No. 2, Lat. 48 - 34!55N, Long. 122 - 39!24W
No. 8, Lat. 48 - 36.8N, Long. 122 - 42!2W
No. 9, Lat. 48 - 36.3N, Long. 122 - 39!4W

E. SMOOTH SHEET

All work on the smooth sheet will be done by the Seattle Processing Office and will be covered by their report which will be appended to this report.

F. CONTROL STATIONS

The following triangulation stations were used as hydro signals:

STATION NAME	HYDRO SIGNAL NAME	ESTABLISHED BY
CLAIR, 1941	AIR	C. P.
CLARK, 1939	ARK	B. H. R.
URBAN, 1939	BAN	B. H. R.
BARN, GABLE, 1941	BARN	C. P.
CONE 2, 1942	CONE	C. P.
CYPRESS IS. LIGHT, 1939	CY	C. A. E.
EAGLE 2, 1939	EAGLE	B. H. R.
VENDOVI EAST, 1939	EAST	G. D.
VENDOVI 2, 1941	END	C. P.
GILLIS, 1942	GILL	
JACK, 1939	JACK	J. J. G.
LAWRENCE 3, 1939	LAW	R. L. S.
SLIDE, 1941	LID	C. P.
PEAPOD LIGHT, 1939	LIG	R. L. S.
MARY, 1941	MARY	C. P.
LUMMI SOUTH, 1854	OUT	G. D.
PEAPOD, 1939	PEAP	R. L. S.
SINCLAIR ISLAND RED ROOFED HOUSE, FINIAL, 1941	RED	C. P.
SINCLAIR ISLAND SHED CHIMNEY, 1941	SHE	C. P.
SIN, 1941	SIN	C. P.
TOW, 1941	TOW	C. P.
VITI ROCKS LIGHT, 1941	VITI	J. C. B.

Supplementary control was topographic from topo sheets HO-C-55, D-55, E-55, F-55, G-55, H-55 and I-55. One photo-hydro signal was located in Bellingham Channel from manuscript No. T-11228; no other photo control was used on this sheet.

A list of all signals and origin is in Vol. 1 of sounding records.

G. SHORELINE AND TOPOGRAPHY

All shoreline is from 1/10,000 scale, topographic sheet Nos. 1748-1886, 1869-1888, 1797 - 1887, 1794 - 1887.

No shoreline discrepancies were noted.

For checked topography and graphic control see special report and graphic control sheets.

On account of the steep-to, rocky coast it was impractical to delineate the low water line in all cases.

H. SOUNDINGS

All soundings, with the exception of a few hand leads, were taken by 808 fathometers Nos. 106S, 62S and a portable EDO fathometer No. 207.

The 808 fathometer initial was set so that with the bar at two fathoms the fathometer would read two fathoms, thereby eliminating index corrections.

The same method was used with the portable Edo except a four fathom bar was used.

The 808 fathometer reeds were calibrated for 800 fathoms per second.

The portable Edo is calibrated for a line frequency of 60 cycles per second with a tolerance of plus or minus 3%. Throughout the entire operation the Edo operated at a line frequency of 60.125 cycles per second therefore a corrector might have to be applied.

Bar checks for launch hydrography were made three times daily and in accordance with letter 22/MEK, S-1-HO dated 15 June 1953 to the Commanding Officer, Ship HODGSON.

Bar checks for the HODGSON were taken by lowering a recorder unit to ten fathoms and the correctors arrived at as shown in following tables and sketch.

The records of Temperature and Salinity Observations and graphs of velocity corrections are from University of Washington titration test. The hydrometer values were disregarded. Velocity corrections have been entered and checked in the sounding volumes. See special report Temperature and Salinity for further details.

All sounding corrections have been entered and checked in the sounding volumes.

I. CONTROL OF HYDROGRAPHY

All hydrography was controlled by visual sextant angles on shore signals.

Due to the strong rip currents in this area launch hydrography was run on ranges where possible; therefore, spacing between fixes is not consistent with time lapse.

J. ADEQUACY OF SURVEY

This survey is incomplete and holidays do exist on work that was done this field season.

East side Bellingham Channel

In order to adequately define the five fathom curve, some splits will be necessary.

Northeast Cypress Island

The zero, five and twenty fathom curves are inadequately defined along shore, southeast of Signal VAL.

The logging pier in Eagle Harbor was not located.

The 7.8 5.3 fathom shoal off signal HAG is inadequately developed.

Northwest Sinclair Island

Incomplete shoal development Lat. 48 - 38!4, Long. 122 - 42!6.

Ship Work North Sinclair Island

Some obvious holidays exist.

K. CROSSLINES

The percentage of crosslines is inadequate for check on sounding lines.

L. COMPARISON WITH PRIOR SURVEY

The soundings from prior surveys, as charted, were transferred to the boat sheet, differences are noted under "M" below.

Rock symbol at Lat. 48 - 36!8N, Long. 122 - 43!3W was substantiated.

Shoal charted on Chart 6380 dated 1/23/54 at Lat. 48 - 36!7N, Long. 122 - 43!1 W was disproved.

M. COMPARISON WITH CHART

This survey was compared with Chart 6380 dated 1/23/54. The charted soundings, as shown, are more or less correct. All rock symbols shown were verified or disproved.

This survey (when complete) should supersede all charted data.

Listed in table below are dangers, shoals and significant soundings that differ with charted data:

CHART LOCATION	CHART DEPTH	NEW LOCATION	NEW DEPTH	REMARKS
48 - 36.7 N 122 - 43.1W	9 fms.	--	17fms.	Disproved
48 - 38.41 N 122 - 42.55 W	12 fms.	Same	8.8 fms.	Further development required.

N. DANGERS AND SHOALS

LOCATION	DEPTH	POSITION	REMARKS
48 - 35.94 N 122 - 41.50 W	~~7.8~~ 8.3 fms.	~~1.47k~~ 1.14k	Relatively unimportant waterway.
48 - 35.39 N 122 - 38.68 W	Awash MLLW	1g	Same

The above soundings are from the boat sheet position using predicted tides and will be revised when smooth plot is made and actual reducers applied.

Area in vicinity of signal HAT, northeast side of Sinclair Island, is too foul for launch hydrography.

There are many potentially dangerous rip currents within the limits of this sheet. Those of special interest are:

Bellingham Channel, east of Cone Island
Rosario Strait, around Cypress Island and around Boulder Reef

O. COAST PILOT

It is recommended that the name Urban be changed to Urban Landing, Page 437, Line 21. The sentence should read: "Urban Landing, at the southwestern end of Sinclair Island has a post office and pier."

P. AIDS TO NAVIGATION

There are six charted aids within the limits of this sheet all of which are charted correctly.

Q. LANDMARKS FOR CHART

No recommended landmarks lie within area thus far surveyed.

R. GEOGRAPHIC NAMES

It is recommended that the name "Urban" be deleted from beneath "Sinclair Island" on chart 6380 and "Urban Landing" be entered near the road symbol on the southwest end of the island. Done -65 L.H.

The residents were contacted and the name confirmed. No village

"Urban" exist on the island.

S. SILTED AREAS No significant silting was noted

T. MARKED STATIONS

Signal CLAM located on the southwestern most of the Cone Islands was marked CLAM - 1955.

Signal REEF, located off the north shore Sinclair Island, was marked REEF - 1955.

Both stations are topographic and were located by Paul Taylor.

Z. TABULATION OF APPLICABLE DATA

Tide Data, Sinclair Island Tide Gage - forwarded to Washington Office
Air Photo Data - forwarded to Washington Office
Temperature and Salinity Report
Fathometer Corrections
Triangulation Data and Report - forwarded to Washington Office
Landmarks for Charts - forwarded to Washington Office
Current Data - forwarded to Washington Office

Respectfully submitted,
James P. Randall
J. P. Randall,
Ens., USC&GS

Approved by:

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

TIDE NOTE

The Sinclair Island, Washington Tide Gage Lat. 48 - 36.98N, Long. 122 - 48.58W was used without time or range corrections for the reduction of all soundings on this sheet. 5.3 feet on the staff corresponds to the plane of MLLW.

GEOGRAPHIC NAMES

Refer to requested change, page 5 of this report, under heading "Geographic Names".

A list of all names pencilled on the smooth sheet.

(To be filled by Processing Office).

TABLE 1

STATISTICS

FOR

HYDROGRAPHIC SURVEY H_____(FIELD NO. HO-1555)

PROJECT 1241

VOL.	DAY	DATE	VESSEL	POS.	STAT. MI.	H. L.
1	A	10/18	HODGSON	226	56.1	
1&2	B	10/19	"	229	58.5	
2&3	C	10/21	"	294	73.3	
3&4	D	10/22	"	158	39.3	
4	E	10/23	"	155	39.6	
		TOTAL	HODGSON	1062	266.8	
5	a	10/13	Lch. 176	168	33.2	5
5	b	10/14	"	60	12.5	
		TOTAL	Lch. 176	228	45.7	5
6	a	10/5	Lch. 177	157	25.8	
6	b	10/6	"	173	22.8	
6	c	10/7	"	42	5.9	
6&7	d	10/10	"	209	27.1	
7	e	10/11	"	9	0.2	
7	f	10/12	"	84	11.8	
7&8	g	10/13	"	220	31.5	
8	h	10/14	"	92	11.8	
8	j	10/17	"	71	10.5	
8&9	k	10/18	"	202	21.0	16
9	l	10/19	"	175	21.1	
9&10	m	10/21	"	220	26.6	2
10	n	10/22	"	214	25.0	
11	p	10/23	"	211	29.2	
		TOTAL	Lch. 177	2079	272.4	18

TABLE 2

VELOCITY CORRECTION ABSTRACT

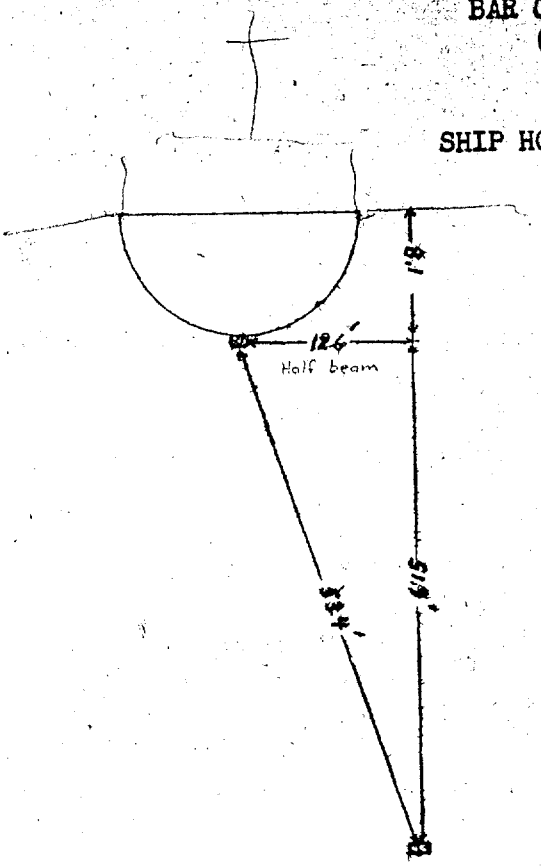
Refer to Special Report 1955-144

Depth Fms.	Corrn. Fms.
0-6	+0.0
6-11	+0.1
11-26	+0.2
26-43	+0.4
43-59	+0.6
59	+0.8

TABLE 3

BAR CHECK COMPUTATION
(INDEX)

SHIP HODGSON ONLY



Draft = 8.1 ft.
Half Beam = 12.6 ft.
Oscillator= 60.0 ft.

True Fathometer Depth = 53.4 ft. =8.9fm

LIST OF BAR CHECKS

DAY	INITIAL	OSCILLATOR	FM. READ	FM. READ - In.
A	1.0 fm.	10.0 fm.	5.6 fm.	4.6 fm.
B	1.0 fm.	10.0 fm.	5.5 fm.	4.5 fm.
	1.0 fm.	10.0 fm.	5.4 fm.	4.4 fm.
	1.0 fm.	10.0 fm.	5.4 fm.	4.4 fm.
C	1.0 fm.	10.0 fm.	5.5 fm.	4.5 fm.
	1.0 fm.	10.0 fm.	5.6 fm.	4.6 fm.
D	1.1 fm.	10.0 fm.	5.3 fm.	4.4 fm.
	1.0 fm.	10.0 fm.	5.5 fm.	4.5 fm.
E	1.1 fm.	10.0 fm.	5.6 fm.	4.5 fm.
	1.0 fm.	10.0 fm.	5.3 fm.	4.3 fm.
				44.7 Total
				4.5 Mean
				9.0 2 X corrected FM. Readin
				8.9 True Fathometer Depth
				-0.1 Corr. to apply

TABLE 4

FATHOMETER CORRECTIONS
(Phase)

808 Fathometer 62S

Fathoms

A	B	A-B
45.0	44.0	+1.0
45.2	44.3	+0.9
45.0	44.2	+0.8
45.0	44.2	+0.8
45.0	44.2	+0.8
45.0	44.2	+0.8
45.0	44.2	+0.8
45.0	44.2	+0.8
45.0	44.2	+0.8
45.0	44.2	+0.8
	Mean	+0.8

Correction Applied to "B" Scale (+0.8)

808 Fathometer 106S

Fathoms

A	B	A-B
49.7	44.0	+0.7
49.8	44.3	+0.5
50.0	44.2	+0.9
49.8	44.2	+0.8
49.6	44.2	+0.6
49.7	44.2	+0.7
50.0	44.2	+0.4
50.8	44.2	+0.4
51.4	44.2	+0.8
51.2	44.2	+0.4
51.0	44.2	+0.4
51.0	44.2	+0.6
	Mean	+0.6

Correction Applied to "B" Scale (+0.6)

APPROVAL SHEET

The boat sheet, records and report for Survey HO-1555 (Field) have been examined by me and found to be complete except as noted in the body of this report.

The boat sheet together with related Graphic Control sheets and a copy of this report will be turned over to the Ship LESTER JONES for completion of hydrography in 1956.

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

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-8318

Field No. HO-1555

State WASHINGTON

General locality WASHINGTON COAST

Locality NORTH BELLINGHAM CHANNEL & ROSARIO STRAIT

Scale 1:10,000 Date of survey 7 April to 5 May 1956

Instructions dated 24 OCTOBER 1956

Vessel SHIP LESTER JONES

Chief of party K. B. JEFFERS

Surveyed by K. B. JEFFERS, P. A. STARK & J.J. DERMODY

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

Fathograms scaled by SHIP PERSONNEL

Fathograms checked by SHIP PERSONNEL

Protracted by H. C. Parsons

Soundings penciled by H. C. Parsons

Soundings in fathoms feet at ~~MLLW~~ MLLW

REMARKS: This addenda applies to 1956 field work by Ship LESTER JONES.

U. S. GOVERNMENT PRINTING OFFICE 16—60520-1

1956 ADDENDA SHEET TO DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8318, (FIELD NO. HO-1555)
SCALE: 1:10,000 SHIP LESTER JONES K. B. JEFFERS, Comdg.
SURVEYED BY: K. B. JEFFERS, P.A. STARK & J. J. DERMODY

NOTE:
This portion of the descriptive report contains information pertaining to the completion of this survey during the 1956 field season by the Ship LESTER JONES.

A. PROJECT:
The completion of this survey was done as part of Project 12410 under Supplemental Instructions No. 22/MEK S-2-LJ dated 24 October 1955.

B. SURVEY LIMITS & DATES:
Field work resumed on 7 April and the survey was completed on 5 May 1956.
This survey is now joined on the north by Field Survey No. LJ-1456 (H-8322) and on the east by LJ-1156 (H-8319).

C. VESSEL & EQUIPMENT:
This survey was done by Launch 176 and the Ship LESTER JONES.
808 fathometers Nos. 75 and 102-S were used interchangeably on the ship and launch.
An electric sounding machine with Sheave No. 390 was used for wire soundings.

D. TIDE & CURRENT STATIONS:
A portable tide gage was reinstalled at the Urban Landing, Sinclair Island site used during the 1955 work. On 19 April this gage was not operating during hydrography. Hourly heights from the Friday Harbor gage were computed to Urban Landing and used to reduce soundings on this day.
Current station No. 10 was observed in Lat. 48-38.46 N., Long.122-39.21 W.

E. SMOOTH SHEET:
Not plotted by field party this date.

F. CONTROL STATIONS:
Only four stations were established as hydro signals during the 1956 season:

BLU	Cf. Vol. 1
JON	Cf. Vol. 1
NEP	Cf. Vol. 1
PIK	Cf. Vol. 1

The following signal name discrepancies were noted:

FIG	interchangeable with	FIT -	Sinclair I.
SAL	"	" SAM -	Vendovi I.
VAT	"	" VET -	" "
VEND	"	" END -	" "
YEA	"	" YES -	" " only.

(YES on Lummi Island does not have dual names)

G. SHORELINE & TOPOGRAPHY:

Paragraph not applicable to 1956 season.

H. SOUNDINGS:

With the exception of a relatively few wire soundings, depths were obtained with the Model 808 fathometers calibrated for 800 fathoms per second. Fathometer corrections were based on bar checks and monthly serial temperatures (Ref. 1956 Fathometer Correction Report) appended to this report is an abstract of monthly velocity corrections and also an abstract of the fathometer corrections employed.

Bar checks were taken by the launch whenever weather and sea condition permitted. Although no bar checks were taken by the ship all the fathometers used on the ship were also used on the launch at various times. Hence all fathometers were bar checked during the season and the results (D-M) indicated that with the exception of phase) it was not necessary to differentiate between individual fathometers when making up the correction curves.

On the launch, the initial was held at zero and on the ship, the initial was held at 1.0 fathoms. The drafts of the launch were 1.5 ft. and the ship 7.8 ft. respectively.

I. CONTROL OF HYDROGRAPHY:

All hydrography was controlled by sextant fixes on shore signals. Micrometer-type sextants were used exclusively and these were checked daily.

No unusual methods were employed and no signals of substandard accuracy were used.

J. ADEQUACY OF SURVEY:

This survey is now complete and adequate to supersede all prior surveys.

K. CROSSLINES:

Adequate crosslines were run and crossed soundings compare favorably.

L. COMPARISON WITH PRIOR SURVEYS:

Soundings from H-1814 (1891 - 1:10,000), H-1815 (1887 - 1:20,000) and H-1953 (1889 - 1:20,000) were transferred to the boat sheet, and in general, agree favorably with contemporary soundings.

M. COMPARISON WITH CHART:

Sounding from charts 6378 and 6380 compare, in general, favorably with contemporary soundings on the boat sheet. A detailed analysis is not practicable until after completion of the smooth sheet.

N. DANGERS & SHOALS:

No new dangers or shoals encountered during the 1956 season.

O. COAST PILOT:

Not applicable to the 1956 field season.

P. AIDS TO NAVIGATION:

Position of Nun Buoy 4, 3/4 mile east of VENDOVI ID. checked.

Q. LANDMARKS FOR CHARTS:
Not applicable to 1956 field season.

R. GEOGRAPHIC NAMES:
In 1956 Geographic Names Report.

S. SILTED AREAS:
No silting applicable to charting noted in 1956. Echo soundings read to top of fathogram trace.

T - Y
Not applicable.

Z. TABULATION OF APPLICABLE DATA:

1955 Descriptive Report	Fwd'd. to Seattle Proc. Off.
1955 Graphic Control Sheets(HD-C-55 thru HD-I-55)	" " " " "
1956 Tide Data, Urban Landing	" " Washington Office
1956 Tide Curves, Hourly Heights & Reducers	" " " "
1956 Serial Temperatures	" " " "
1956 Velocity Correction Abstract appended to this report.	
1956 Fathometer Report	Fwd'd. to " "
1956 Fathometer Correction Abstract appended to this report.	
1956 Geographic Names Report	Fwd'd. to Washington "
1956 Season's Report	" " " "
1956 Current Data on Station No. 10	" " " "

Respectfully submitted,

P. A. Stark

P. A. STARK,
LT., C&GS

TIDE NOTE TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8318 (HD-1555)

Tide data was obtained from the portable automatic gage maintained at Urban Landing, Sinclair Id., Lat. 48-37.0, Long. 122-41.5.

No time or range corrections were used.

The leveling record was sent to the Washington Office and the plane of MLLW on the staff determined as 8.0 ft.

Tide reducers were tabulated from curves based on hourly heights scaled from marigrams. For convenience and accuracy the reducer intervals were 0.1 fm. and 0.2 ft. for all depths. The hourly heights, tide curves and reducers were forwarded to the Washington Office.

STATISTICS FOR HYDROGRAPHIC SURVEY
H-8318 (HD-1555)
SHIP LESTER JONES - 1956 WORK ONLY
PROJECT 12410

DATE	VOL. NO.	DAY LTR.	NO. POS.	STAT.MILES	L.L.SNDGS
SHIP LESTER JONES					
8 April	I	A	93	30.4	- -
11 April	I	B	100	28.0	- -
12 April	II	C	92	32.5	- -
19 April	II & III	D	123	42.0	- -
20 April	III	E	144	24.2	27
21 April	III	F	12	- -	12
TOTALS		6	564	157.1	39
LAUNCH 176					
7 April	1	a	175	35.5	- -
8 April	1 & 2	b	131	22.2	- -
10 April	2	c	164	23.5	- -
11 April	3	d	153	18.0	- -
12 April	3 & 4	e	135	14.6	- -
19 April	4	f	182	23.3	4
20 April	4 & 5	g	157	15.0	- -
21 April	5	h	204	21.5	- -
22 April	6	j	197	21.4	3
5 May	6	k	41	3.2	- -
TOTALS		10	1,539	198.2	7

APPROVAL SHEET

Field work was done under the supervision of the Chief of Party and the hydrography was examined daily. The survey is complete and no further field work is required. All records, exclusive of the Smooth Sheet, are approved.

G. C. MAST,
COMMANDER, C&GS
CHIEF OF PARTY

PROCESSING OFFICE NOTES - H-8318

SMOOTH SHEET

The smooth sheet was hand constructed by the Seattle Hydrographic Processing Unit using standard methods of construction and checking.

CONTROL STATIONS

From same sources as shown in field reports except that hydro signal VAN was transferred from smooth sheet H-8332.

SHORELINE AND TOPOGRAPHY

Same as listed in the 1955 field report.

CONTROL OF HYDROGRAPHY

The major part of the sounding line positions for this sheet were pricked through from film positives of the boat sheets. All inshore ends of lines, all shoals and discrepancies were plotted by protractor. In all, about 30% of the positions were protracted.

ADEQUACY OF SURVEY

The survey appears complete and adequate for charting.

Junctions with H-8232, H-8233, H-8317 and H-8319 have been compared and are satisfactory. The depth curves can be adequately drawn at the junctions.

The junction with H-8322 will be compared when that sheet is completed.

In the inshore area in the vicinity of Lat. 48° 35'.2, Long. 122° 38'.3 there are two parallel sounding lines which are not in agreement. The inshore one, Launch 177 "c" day (brown) appears to be several tenths of a fathom deeper than Launch 176 "a" day (violet). No reason could be found for this difference except for the possibility of poor angles in the fixes. The inshore line soundings were not plotted.

In the vicinity of Lat. 48° 35'.7, Long. 122° 37'.5 a ship sounding line "D" (Green) 1956 crosses sounding lines of Launch 176 (violet) and appears to be about three tenths too deep. The fathograms were examined but no apparent reason could be found for the discrepancy. The lines by Launch 176 were ran with an EDO fathometer and the ship lines with an 808. This may account for some of the discrepancy on the above mentioned inshore sounding lines.

COMPARISON WITH CHART

Comparison was made with Chart 6378 11th Ed., Revised 8/13/56 and Chart 6380 8th Ed., Revised 6/17/57.

In general the agreement appears reasonable though a number of the sounding from this survey are somewhat shoaler than the charted soundings.

See section of Chart 6378, attached to this report, for comparison between the chart and this survey.

DANGERS AND SHOALS

Two uncharted shoal soundings were found on this survey.

$8\frac{8}{3}$ fathoms at Lat. 48° 39'.35, Long. 122° 39'.1 — charted as 9 4
$8\frac{2}{}$ fathoms at Lat. 48° 35'.9, Long. 122° 41'.5

The latter sounding is shown on Chart 6380 as 7 3/4 fathoms.

The charted 9 fathom sounding at Lat. 48° 36'.7, Long. 122° 43'.1, appears to be either misplaced or is 10 fathoms too shoal. The smooth sheet shows 19 fathoms in that location.

Respectfully submitted

William M. Martin

WILLIAM M. MARTIN
SUPERVISORY CARTOGRAPHER

APPROVED AND FORWARDED:

G. C. Mast

G. C. MAST, CAPT., C&GS
SEATTLE DISTRICT OFFICER

GEOGRAPHIC NAMES

H-8318 (HO-1555)

BELLINGHAM CHANNEL

BOULDER REEF

CARTER PT.

CLARK PT.

CONE IS.

CYPRESS ISLAND

CYPRESS REEF

EABLE HARBOR

GUEMES ISLAND

JACK ISLAND

LUMMI ISLAND

LUMMI ROCKS

ORCAS ISLAND

PEAPOD ROCKS

RT LAWRENCE Pt

ROSARIO STRAIT

SINCLAIR ISLAND

TOWHEAD ISLAND

URBAN LANDING

VENDOVI ISLAND

VITI ROCKS

USC&GSS LESTER JONES
1956 VELOCITY CORRECTION ABSTRACT
FROM
SERIAL TEMPERATURES

Applicable Depth	April	May	June	July	Aug.	Sept.	Oct.	Nov.
	Corrections in Fathoms							
7	+0.02	+0.05	+0.05	+0.06	+0.09	+0.07	+0.06	+0.05
12	+0.04	+0.10	+0.10	+0.12	+0.16	+0.14	+0.12	+0.09
17	+0.05	+0.15	+0.15	+0.18	+0.23	+0.21	+0.17	+0.14
22	+0.07	+0.19	+0.20	+0.25	+0.30	+0.28	+0.23	+0.18
27	+0.09	+0.24	+0.25		+0.36	+0.34	+0.29	
32	+0.11	+0.29	+0.30		+0.43	+0.41	+0.35	
37	+0.13	+0.34	+0.35		+0.49	+0.47	+0.40	
42	+0.14	+0.38	+0.40		+0.56	+0.54	+0.46	
47	+0.16	+0.43	+0.45		+0.62	+0.60	+0.51	
52	+0.18	+0.47	+0.50		+0.68	+0.66	+0.56	
57		+0.52	+0.55		+0.75	+0.73	+0.61	
62		+0.56				+0.79	+0.66	
67		+0.61						

NOTE: The above values are velocity corrections based solely on monthly serials. They were combined with Bar Check and Draft data to obtain the final fathometer corrections.

SHIP LESTER JONES

1956 FATHOMETER CORRECTIONS

(Derived from Bar Check and Serial Data - 1956)

SHIP - FATHOMS

April

+ 0.3	0	to	16
+ 0.4	16	to	45
+ 0.5	45	to	70

MAY - JUNE

+ 0.3	0	to	7
+ 0.4	7	to	18
+ 0.5	18	to	28
+ 0.6	28	to	38
+ 0.7	38	to	48
+ 0.8	48	to	58
+ 0.9	58	to	68

JULY - SEPT.

+ 0.3	0	to	5
+ 0.4	5	to	11
+ 0.5	11	to	19
+ 0.6	19	to	27
+ 0.7	27	to	35
+ 0.8	35	to	43
+ 0.9	43	to	50
+ 1.0	50	to	58
+ 1.1	58	to	66
+ 1.2	66	to	74

OCT. - NOV.

+ 0.3	0	to	7
+ 0.4	7	to	17
+ 0.5	17	to	26
+ 0.6	26	to	36
+ 0.7	36	to	46
+ 0.8	46	to	57
+ 0.9	57	to	67

LAUNCH - FATHOMS

April

+ 0.3	0	to	5
+0.2	5	to	25
+ 0.3	25	to	54
+ 0.4	54	to	75

MAY - JUNE

+ 0.2	0	to	15.3
+ 0.3	15.3	to	25.5
+ 0.4	25.5	to	35.7
+ 0.5	35.7	to	45.7
+ 0.6	45.7	to	55
+ 0.7	55	to	66
+ 0.8	66	to	76

JULY - SEPT.

+ 0.2	0	to	9.5
+ 0.3	9.5	to	18.0
+ 0.4	18.0	to	26.0
+ 0.5	26.0	to	35.0
+ 0.6	35.0	to	43.0
+ 0.7	43.0	to	51.0
+ 0.8	51.0	to	59.0
+ 0.9	59.0	to	67.0
+ 1.0	67.0	to	75.0

OCT. - NOV.

+ 0.2	0	to	6.0
+ 0.3	6.0	to	16.0
+ 0.4	16	to	26
+ 0.5	26	to	36
+0.6	36	to	46
+ 0.7	46	to	56
+ 0.8	56	to	66
+ 0.9	66	to	76

LAUNCH - FEET

April

+ 1.4	0	to	28
+ 1.6	28	to	75

MAY - JUNE

+ 0.8	0	to	14
+ 1.0	14	to	23
+ 1.2	23	to	32
+ 1.4	32	to	55

JULY - SEPT.

+ 1.0	0	to	7
+ 1.2	7	to	19
+ 1.4	19	to	31
+ 1.6	31	to	43
+ 1.8	43	to	55

OCT. - NOV.

+ 1.2	0	to	13
+ 1.4	13	to	25
+ 1.6	25	to	38
+ 1.8	38	to	Rest of A Scale

PHASE

Fathometer

Number	B "SCALE" (A-B)
75	- 0.3
102-S	- 2.5 fms.
107-S	- 1.5

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No. H-8318

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			(title)						BGN	1
Bellingham Channel										2
Guemes Island										3
Clark Point										4
Jack Island										5
Eagle Harbor										6
Cone Islands Cypress Island										7
Towhead Island									BGN	8
Cypress Reef										9
Sinclair Island										10
Urban Landing			(tide station)							11
Boulder Reef										12
Vendovi Island										13
Viti Rocks										14
Carter Point										15
Lummi Island									BGN	16
Lummi Rocks										17
Rosario Strait									BGN	18
Lawrence Point			(not Point Lawrence)							19
Peapod Rocks										20
Orcas Island										21
			Names approved 10-14-59 L. Heck L.H.							22
										23
										24
										25
										26
										27

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8318

Records accompanying survey:

Boat sheets 2; sounding vols. 20; wire drag vols. .....;

bomb vols. .....; graphic recorder rolls 11; Envelopes

special reports, etc. 1-Smooth sheet and 1-Descriptive report

.....

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

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

Verification by.....Total time ..... Date .....

Reviewed by..... Time ..... Date .....

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H- 8318

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.

2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.

3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.

4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.

5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.

6. All positions verified instrumentally were check marked in the sounding records.

7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.

8. The metal protractor has been checked within the last three months.

9. The protracting and plotting of all bad crossings were verified.

10 All detached positions locating critical soundings, rocks or buoys were verified.

11. The boat sheet was compared with the smooth sheet.

12 The spacing of soundings as recorded in the records was closely followed.

13. The bottom characteristics were shown on outstanding shoals.

14. The reduction and plotting of doubtful soundings were checked.

15. The transfer of contemporary topographic information was carefully examined.

16. All junctions were transferred and overlapping curves made identical.

17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.

18. The depth curves have been inspected before inking.

19. All triangulation stations and transfer of topographic and hydrographic signals were checked.

20. Heights of rocks were checked against range of tide.

21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.

22. Unnecessary pencil notes have been removed.

23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.

24. The low water line and delineation of shoal areas have been properly shown.

25. Degree and minutes values and symbols have been checked.

26. Questionable soundings have been checked on the fathograms.

27. Source of shoreline and signals (when not given in report).

28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.

29. All aids located, with those on contemporary topographic sheets, have been shown on survey.

30. Depth curves were satisfactory except as follows:

31. Sounding line crossings were satisfactory except as follows:

32. Junctions with contemporary surveys were satisfactory except as follows:

33. Condition of sounding records was satisfactory except as follows:

34. The protracting was satisfactory except as follows:

35. The field plotting of soundings was satisfactory except as follows:

36. Notes to reviewer:

Verified by Date

US GOVT. PRINTING OFFICE

L.S.S.

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast and Geodetic Survey~~ 3 Nov. 1959

Division of Charts: R. H. Carstens

Plane of reference approved in
20 volumes of sounding records for

HYDROGRAPHIC SHEET 8318

Locality Bellingham Channel & Rosario Strait, Washington

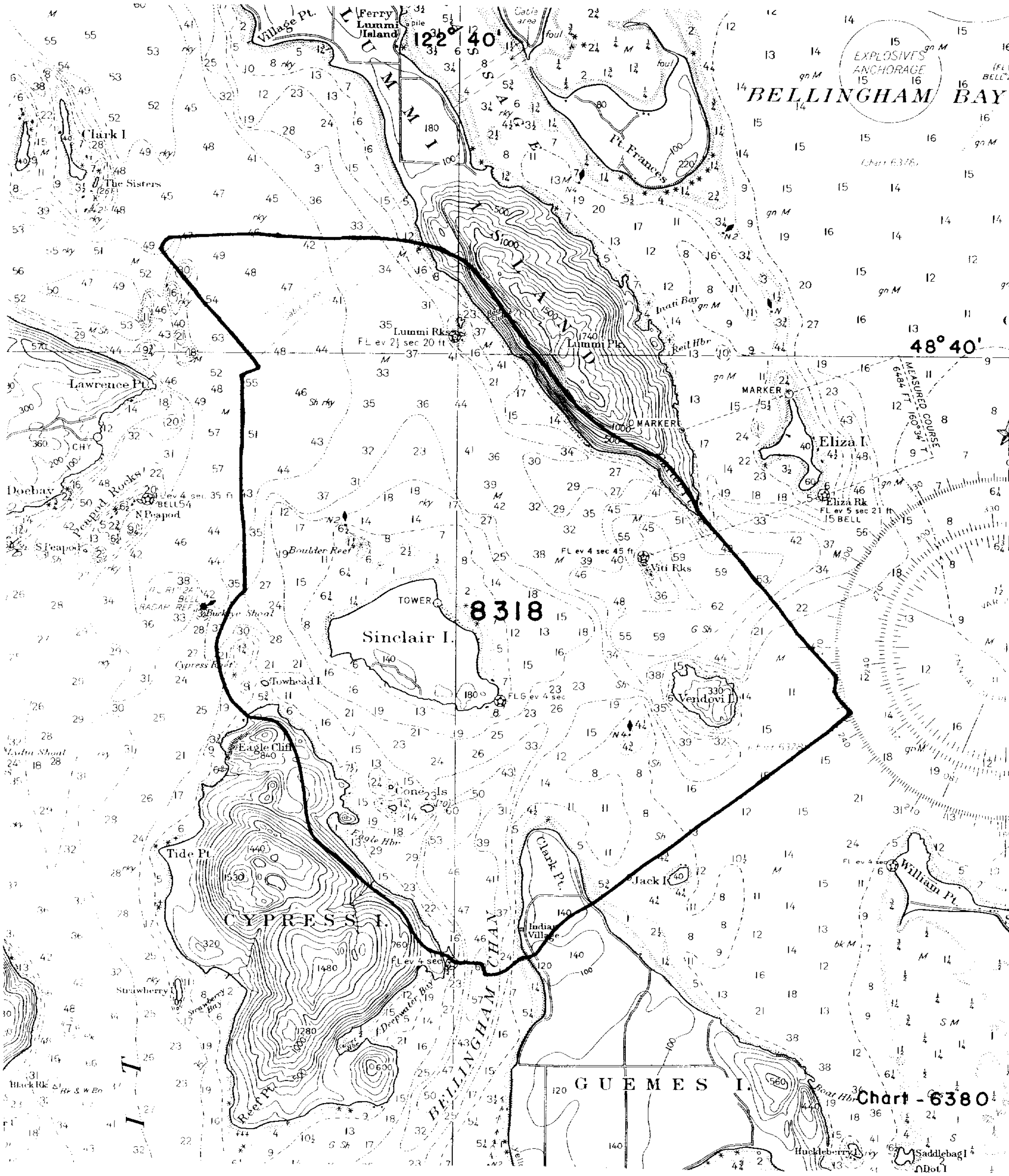
Chief of Party: K. B. Jeffers & P. Taylor in 1955-56
Plane of reference is mean lower low water, reading
5.3 ft. on tide staff at Sinclair Island in 1955
8.0 ft. ~~below B.M.~~ on tide staff at Sinclair Island in 1956
19.2 ft. below B.M. 1 (1955)

Height of mean high water above plane of reference is 8.0 feet.

Condition of records satisfactory except as noted below:

William Shafer
Tides Branch
Chief, ~~Division of Tides and Current~~

U. S. GOVERNMENT PRINTING OFFICE 877933



BELLINGHAM BAY
EXPLOSIVES ANCHORAGE
122° 40'
48° 40'
Lummi Island
Lummi Pt.
Pt. Frances
Clark I.
The Sisters
Lawrence Pt.
Doebay
Peapod Rocks
Eliza I.
Sinclair I.
Vendovi I.
Viti Rks
Towhead I.
Boulder Reef
Cypress Reef
Eagle Cliff
Cone Is
Tide Pt.
CYPRESS I.
Strawberry I.
Reef Pt.
BELLINGHAM CHAN
Clark Pt.
Jack I.
Indian Village
GUEMES I.
William Pt.
Huckleberry I.
Saddlebag I.
Dot I.
MEASURED COURSE
8318
Chart - 6380

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8318

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10-5-59	6378	H.W. B	Partially applied Before ~~After~~ Verification and Review
3-2-60	6380	M. Rogers	Partially applied Before ~~After~~ Verification and Review thru chart 6378. ✓RKS 3-9-60
2/5/80	18424	Cartographer ROS	~~Before~~ After Verification and Review
	(6378)		Fully applied
4/9/78	18430	B.W. Hamilton	~~Before~~ After Verification and Review
			Fully applied
6/10/80	18421	Cartographer ROS	~~Before~~ After Verification and Review
		4-16-80	Fully applied
6/10/80	18423	Cartographer	~~Before~~ After Verification and Review
		6-16-80-ROS	Fully applied
6/13/80	18400	Cartographer	~~Before~~ After Verification and Review
		6-16-80-ROS	Fully applied
			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.

Ch 6378- 10/5/59 - HWB- Partial applied before Vero Review