8317

Diag. Cht. No. 6380-2.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HO-1355 *Office No.* H-8317

LOCALITY

State Washington

General locality Bellingham Bay

Locality Samish Bay & Northern Part of Padilla Bay

1955-56

CHIEF OF PARTY

A. N. Stewart & P. Taylor

LIBRARY & ARCHIVES

DATE July 13, 1959

USCOMM-DC 5087

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. 8317

Field No. HO-1355

State Washington

General locality ~~Washington Coast~~ Bellingham Bay

Locality ~~Northern half of Padilla Bay and southern part of Samish Bay~~ Samish Bay and N. Part of Padilla Bay

Scale 1:10,000 Date of survey ~~15~~ 1 June to 31 Aug. 1955
23 April to 24 May 1956

Instructions dated 7 Jan. 1955

Vessel Launches 134, 176 and 177, LESTER JONES

Chief of party A. Newton Stewart and Paul Taylor, K.B. JEFFERS

Surveyed by A. Newton Stewart, M. J. Tonkel and R. C. Munson, K.B. Jeffers, P.A. Stark, J.J. DERMODY

Soundings taken by fathometer, ~~graphic recorder, hand lead, pole~~ Wire sounding, hand lead, Sounding Pole.

Fathograms scaled by Ship personnel

Fathograms checked by Ship personnel

~~Protracted by~~ Transferred from the boat sheet by Seattle Processing Office Personnel.

Soundings penciled by W. Martin

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW and are ~~based on a velocity~~ true depths

REMARKS: ~~of 800 m/s.~~

KWB

U. S. GOVERNMENT PRINTING OFFICE 693019

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H- (FIELD NO. HO-1355)

SCALE 1:10,000

SHIP HODGSON , A. NEWTON STEWART & PAUL TAYLOR, COMDG.

SURVEYED BY: A. NEWTON STEWART, M. J. TONKEL, R. C. MUNSON

A. PROJECT

This survey was executed under Instructions No. 22/SRO, S-2-HO, dated 7 Jan. 1955 and is a part of Project 1241, Washington Coast.

B. SURVEY LIMITS AND DATES:

This sheet covers the northern half of Padilla Bay and the southern part of Samish Bay, from Lat. 48 - 32.5'N to 48 - 37.0' N and Long. 122 - 26.0W to 122 - 37.5' W. It is joined on the south by Survey No. HO-1155(field) and on the northwest by Survey No. HO-1555 (field). H-8331(55) H-8318(1955-56) & on the north by H-8317(1956)

Hydrography was done between 15 June and 31 August 1955. Survey launches were under the immediate charge of Lt. Comdr. Miller J. Tonkel and Lieut. (jg) Robert C. Munson.

C. VESSEL AND EQUIPMENT

This survey was executed by Launches 134, 176 and 177 all of which were attached to the Ship HODGSON.

Sounding equipment used included 808 portable fathometers Nos. 62S and 106S and handlead. Fathometer reeds were calibrated for 800 fathoms per second. The lead line was checked for accuracy both before and after work, and was correct for depths in which it was used.

D. TIDE AND CURRENT STATIONS

No current stations were observed within the limits of this sheet. off survey sheet

The portable automatic tide gage maintained at Anacortes, Washington, Lat. 48 - 31.3'N, Long. 122 - 36.7'W, was used for the reduction of all soundings south of a line between William Point and Jack Island without time or range correction. MLLW on the staff is 6.7 feet. All tide reducers have been entered and checked in the sounding volumes. A tabulation of tide reducers are attached to this report.

A portable automatic tide gage was also maintained at the north entrance to Swinomish Slough, Lat. 48 - 27.5'N, Long. 122 - 30.8'W during the survey but was not used in the reduction of soundings due to the effect of the weather and wind on the heights of tides at this station. off survey limits.

E. SMOOTH SHEET

All smooth sheet work will be done by the Seattle Processing Office and will be covered by an addenda to this report by them.

F. CONTROL STATIONS

Triangulation stations:

NAME	DATE	CHIEF OF PARTY
SADDLEBAG 2	1939	R. W. K.
SADDLEBAG ISLAND	1939	R. W. K.
VENDOVI EAST	1939	R. W. K.
FOSSE	1939	R. W. K.
HODGE	1887	J. J. G.
JACK 2	1937	R. W. K.
MORRIS	1939	R. W. K.
BOAT HARBOR 2	1939	R. W. K.
WILLIAM PT. LIGHT	1939	R. W. K.

Topographic statipns were located by standard graphic control methods and are taken from topographic control sheets Nos. HO-F, H and I-55(field). These were supplemented by photo-hydro signals taken from Photographic Manuscript No. T-11229 and by two signals located by sextant angles which were recorded in the sounding volume.

A list of all hydrographic signals on the sheet, together with their source, is attached to sounding volume No. 1 and also included with this report.

The graphic control sheets Nos. HO-F, H and I-55(Field) and photographic manuscript No. T-11229 will b e transferred to the Ship LESTER JONES for use in conjunction with completion of this hydrographic survey.

G. SHORELINE AND TOPOGRAPHY

Shoreline and topography was taken directly from photographic manuscripts by the Office. The shoreline around the north end of Guemes Island, Jack and Vendovi Islands and the west part of Samish Island were transferred from prints of old surveys No. H-1814, 1891 and H-1815, 1887.

See 1956 portion of D.R. & Review.

Shoreline and alongshore detail from the photographic manuscript were checked for accuracy in the field (Reference 1955 Supplement to Field Inspection Reports). The shoreline transferred from prior surveys was checked at each planetable set-up, (Reference 1955 Graphic Control Report).

The low water line delineation on this survey requires additional work in 1956.

H. SOUNDINGS

Soundings were taken with launches equipped with 808 fathometers. (See paragraph C). One half day of hand lead soundings was made on the grassy flats at the junction of this sheet and Survey No. HO-1155(field), in order that the fathograms in such areas might be more correctly interpretated. (Reference 1955 Season's Report, Project 1241).

Fathometer bar checks were made three times daily. The fathometer was set to read correct on the bar when it was lowered two fathoms below the surface, thereby eliminating draft and velocity corrections down to that depth. Any variation in the fathometer initial, as indicated by the bar, will be found entered as an initial correction in the sounding volumes.

All soundings are on A Scale and no phase comparisons were made.

The temperature and salinity observations used for the reduction of soundings on this survey was made in Guemes Channel at Lat. 48 - 31.4'N, Long. 122 - 34.0'W. The velocity corrections are entered under "Echo" in the sounding volumes and are listed in a table following this report. (Also see Temperature and Salinity Report, 1955, Project 1241).

I. CONTROL OF HYDROGRAPHY

All hydrography was controlled by sextant angles on shore signals.

J. ADEQUACY OF SURVEY

This survey is incomplete. The boat sheet will be transferred to the Ship LESTER JONES for completion during the 1956 season.

Numerous bottom samples were taken and are plotted on the boat sheet. Additional bottom samples are necessary to complete the survey.

The junction with Survey HO-1155 on the south at Lat. 48 - 32.5'N was good except in the grassy flats between Long. 122 - 31' and 32'W. Fathograms were rescanned in this area after a half day of lead line work (See Paragraph H) and the junction in this area should prove satisfactory when the smooth sheet is plotted.

K. CROSSLINES

Additional crosslines are necessary for the completion of this survey.

L. COMPARISON WITH PRIOR SURVEYS

Soundings from prior survey H-1815, (1887) were transferred to the boat sheet and compared fairly well with the present soundings in the deeper water. Numerous changes have occured, however, in the shoaler areas. Additional comments on this subject are necessary when this survey is completed and all

soundings reduced and smooth plotted.

M. COMPARISON WITH CHART

For a comparison of the present soundings with Chart 6378, print date 8/9/54, see paragraph L.

N. DANGER AND SHOALS

No dangers or shoals were found ether than the extensive mud flats previously mentioned and charted.

O. COAST PILOT INFORMATION

The published Coast Pilot information of the area surveyed is complete and adequate.

P. AIDS TO NAVIGATION

William Point Light is the only aid to navigation in the area. It was located by triangulation in 1939 and is charted correctly.

Q. LANDMARKS FOR CHARTS

No addition or deletion of landmarks in the area surveyed are recommended.

R. GEOGRAPHIC NAMES

There are no changes in the charted geographic names recommended within the area surveyed.

S. SILTED AREAS

Extensive silted areas exist in Padilla Bay, Samish Bay and between Jack and Guemes Island. These areas will be clearly defined when the survey is completed and the smooth plot is made.

All of the silted area in Padilla Bay within the limit of this survey is leased to a private company and is used for the cultivation of oysters. Care should be exercised when working in the area so that the beds will not be damaged.

T. BY-PRODUCTS INFORMATION

None.

U-Y. MISCELLANEOUS

It is recommended that future sounding in the silted grassy areas in Padilla Bay and Samish Bay be done with a sounding pole and hand lead, or that numerous pole or hand lead comparisons with the fathometer be made in order to correctly interpret the fathograms in the areas.

Z. TABULATION OF APPLICABLE DATA

1. Tide Data, Anacortes, Wash. - forwarded to Washington Office

2. Air Photo Data and Addenda to Field Inspection Report - forwarded to Washington Office and Supervisor, NWD.

3. Temperature and Salinity Report - forwarded to Supervisor, NWD.

4. Season's Report - To Director and Supervisor, NWD.

Respectfully submitted,

Paul Taylor

Paul Taylor,
CDR, USC&GS
Chief of Party

TABLE 1

TIDE REDUCERS

FOR

HC- 1355

FROM

ANACORTES TIDE GAGE

6/15		6/29		6/30	
TIME	FATHOMS	TIME	FEET	TIME	FEET
0800-0820	-0.2	1000-1003	-2.4	1018-1028	-2.4
-0900	-0.3	13	-2.6	37	-2.6
37	-0.4	24	-2.8	43	-2.8
1013	-0.5	36	-3.0	53	-3.0
1100	-0.6	46	-3.2	1105	-3.2
52	-0.7	53	-3.4	14	-3.4
1248	-0.8	1106	-3.6	25	-3.6
1543	-0.9	18	-3.8	37	-3.8
	FEET	28	-4.0	44	-4.0
1114-1132	-4.2	40	-4.2	54	-4.2
		55	-4.4	1203	-4.4
		1208	-4.6	12	-4.6
		18	-4.8	22	-4.8
		30	-5.0	33	-5.0
		45	-5.2	42	-5.2
		1300	-5.4	50	-5.4
		21	-5.6	1300	-5.6
		40	-5.8	10	-5.8
		1413	-6.0	25	-6.0
		46	-6.2	42	-6.2
		end	-6.4	55	-6.4
				1413	-6.6
				39	-6.8
				54	-7.0
				1515	-7.2
				end	-7.4

NO PHASE CORRECTION ON THIS SHEET - ALL "A" SCALE

TABLE 1 (continued)

7/15

TIME	FEET
1108-1117	-3.6
26	-3.8
32	-4.0
40	-4.2
49	-4.4
56	-4.6
1202	-4.8
12	-5.0
23	-5.2
37	-5.4
47	-5.6
57	-5.8
1310	-6.0
22	-6.2
33	-6.4
50	-6.6
1410	-6.8
22	-7.0
1500	-7.2
45	-7.4
end	-7.2

7/16

TIME	FEET
1050-1057	-2.0
1102	-2.2
11	-2.4
19	-2.6
26	-2.8
32	-3.0
39	-3.2
45	-3.4
53	-3.6
1200	-3.8
08	-4.0
15	-4.2
23	-4;4
30	-4.6
39	-4.8
46	-5.0
53	-5.2
1300	-5.4
10	-5.6
18	-5.8
25	-6.0
38	-6.2
47	-6.4
1400	-6.6
10	-6.8
19	-7.0
33	-7.2
46	-7.4
1458	-7.6
end	-7.8

8/17

TIME	FEET
0914-1028	+1.2
44	+1.0
55	+0.8
1108	+0.6
19	+0.4
29	+0.2
38	0.0
49	-0.2
59	-0.4
1208	-0.6
15	-0.8
23	-1.0
30	-1.2
39	-1.4
48	-1.6
57	-1.8
1303	-2.0
10	-2.2
18	-2.4
24	-2.6
31	-2.8
38	-3.0
43	-3.2
50	-3.4
57	-3.6
1401	-3.8
08	-4.0
14	-4.2
21	-4.4
27	-4.6
35	-4.8
40	-5.0
49	-5.2
53	-5.4
1501	-5.6
05	-5.8
11	-6.0
18	-6.2
23	-6.4
32	-6.6
41	-6.8
49	-7.0
1603	-7.2
22	-7.4
end	-7.6

TABLE 1 (continued)

8/31

TIME	FEET
0838-1000	-0.2

TIME	FATHOMS
0800-0833	-0.1
1000	0.0
42	-0.1
1119	-0.2
54	-0.3
1220	-0.4
42	-0.5
1303	-0.6
31	-0.7
1403	-0.8
30	-0.9
1500	-1.0
end	-1.1

TABLE 2

VELOCITY CORRECTION ABSTRACT

Depth Fms.	Correction Fms.
0 to 20	0.0
20.1 to 47	+ 0.2

Note: See Salinity and Temperature Report, Project 1241 for data.

TABLE 3

LEADLINE CORRECTIONS

N-8331

Refer to Table No. 3 of Hydrographic Report for Survey HO-1155 (Field) for leadline corrections.

TABLE 4

STATISTICS FOR HYDROGRAPHIC SURVEY H H-8317 (HO-1355 Field)

USC&GSS HODGSON PROJECT 1241, 1955

VOL.	DAY	DATE	LAUNCH NO.	POS.	STAT. MI.	H. L.
1	a	30 June	176	31	B.S.	31
1	b	31 Aug.	176	147	22.0	
2	a	16 June	177	193	46.5	
2	b	29 June	177	163	36.7	
3	c	30 June	177	107	30.3	
3	d	15 July	177	135	23.9	
3	e	16 July	177	13	2.4	3
3	f	18 Aug.	177	75	8.1	214
4	g	31 Aug.	177	145	31.0	
5	a	16 July	134	46	8.7	
			TOTALS	1055	209.6	248

FORM 197
(3-16-55)

GEOGRAPHIC NAMES

Survey No.

Name on Survey	On Chart No. 6378 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	BGN K	
Boat Harbor ✓	x									1
Fish Point ✓	x									2
Guemes Island	x									3
Huckleberry Island	x									4
Padilla Bay	x									5
Saddlebag Island	x									6
Samish Bay	x									7
Samish Island	x									8
Scotts Point ✓	x									9
Vendovi Island	x									10
William Point	x								x	11
										12
										13
										14
										15
										16
										17
										18
										19
										20
										21
										22
										23
										24
										25
										26
										27

Geographic Names Section
28 August 1961

Form 946

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8317...

Records accompanying survey: Smooth sheets ..1...;

boat sheets ...2..; sounding vols. .14..; wire drag vols. .....;

Descriptive Reports .1...; graphic recorder envelopes .10..;

special reports, etc. .....

.....

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

Number of positions on sheet		3423
Number of positions checked		27
Number of positions revised		0
Number of soundings revised (refers to depth only)		375 approx.
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		✓
Topographic details	Time	40
Junctions	Time	20
Verification of soundings from graphic record	Time	✓
Special adjustments see Washington Verifier's notes	Time	40

Verification by Albert K. Schuyler Total time 30 days 90 hr. Date 4/23/62

" " John T. Dallahan

Reviewed by E. E. Thomas Time ~~42~~ 52 hrs Date 2/17/64

US COMM C&GS DC

8317

Diag. Cht. 6380-2.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. HO-1355 Office No. H-8317

LOCALITY

State Washington

General locality Bellingham Bay

Locality Samish Bay & Northern Part of Padilla Bay.

1956

CHIEF OF PARTY

K. B. Jeffers

LIBRARY & ARCHIVES

DATE

USCOMM-DC 5087

8317

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET 1956 ADDENDA

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-8317

Field No. HO-1355

State WASHINGTON

General locality ~~WASHINGTON COAST~~

Locality NORTHERN PADILLA BAY, SAMISH BAY

Scale 1:10,000 Date of survey 23 April to 24 May 1956

Instructions dated 24 OCTOBER 1955

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

Soundings penciled by

Soundings in fathoms feet at ~~MLW~~ 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-8317, (FIELD NO. HO-1355)
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 23 April 1956 and was completed on 24 May 1956.
This survey is now joined on the north by Field Survey No. LJ-1156 (H-8319). (1956)

C. VESSEL & EQUIPMENT:
This survey was done by Launch 176 and the Ship LESTER JONES.
Model 808 fathometers Nos. 75, 102-S and 107-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:
For the 1956 field work, a portable automatic gage was maintained at Urban Landing, Sinclair Id. Additional data ~~is~~ are available in the appended TIDE NOTE.
No current stations were established within the limits of this sheet.

E. SMOOTH SHEET:
Not plotted by field party at the date of this report.

F. CONTROL STATIONS:
Additional control was established in 1956. Marked topographic stations MISH, 1956 and FISH, 1956 were located by triangulation. Additional hydrographic signals were located on Graphic Control Sheets (HO-H-55 & LJ-A-56) and on Photogrammetric Manuscript T-5587. No topographic stations were located by planetable.
A separate sheet listing the additional control and the hydrographic signals established in 1956 is attached to sounding volume No. 1.
Signal OAF, on the north shore of Samish Id. was found in error after it had been used for some short lines run perpendicular to the beach. The hydrography was replotted to assure that no holidays had occurred.

G. SHORELINE & TOPOGRAPHY:
In addition to the sources of the shoreline indicated in the 1955 portion of the Descriptive Report, Graphic Control Sheet LJ-A-56 was made in 1956, to check the shoreline in the northern part of Samish Id. and also to provide graphic control. The shoreline for sheet LJ-A-56 was obtained from Topographic Survey No. 1794 dated 1887. Graphic Control sheets to be Destroyed.

Many of the hydrographic signals were built on or near the high-water line and changes in the shoreline were readily apparent after the signals were located on a planetable sheet having a tracing of the old shoreline. Few changes were found and these were delineated by planetable traverse. The inked portions of the graphic control sheets were stadia-traversed either to depict changes or to confirm the original survey.

It was not economically feasible to delineate all of the low water line in the south portion of Samish Bay. The latter is not navigable and is privately leased for oyster growing. The entire area is interlaced with meandering, shallow channels which, according to local boatmen, are constantly shifting. The local inhabitants maintain channel markers (poles) for their own use in the southern part of the bay.

The excellent 1:10,000 photographic coverage of this area will be of considerable value to the smooth plotter in plotting the low water line and numerous channels.

H. SOUNDINGS:

With the exception of a relatively few wire soundings, depths were obtained with 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 twice daily, whenever weather and sea conditions permitted. Although no bar checks were taken on 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. 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 ship sounded solely on the fathom scale. The draft of the launch and ship was 1.5 ft. and 7.8 ft. (1.3 fms.) 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 sub-standard accuracy were used.

J. ADEQUACY OF SURVEY:

This survey is now complete. It supersedes all prior surveys.

Adequate junctions were made with adjoining surveys.

K. CROSSLINES:

Adequate crosslines were run on the boat sheet. No discrepancies were noted in crossed soundings.

L. COMPARISON WITH PRIOR SURVEYS:

Soundings from prior 1:20,000 survey H-1815, dated 1887 were transferred to the boat sheet and in general agreed with the new soundings in

areas of deep water. In the shoal areas of the southern part of Samish Bay, changes were found which were due to actual changes having occurred since 1887, rather than discrepancies in the survey.

M. COMPARISON WITH CHARTS:
Soundings on Chart 6378 compare, in general, favorably with contemporary soundings. A detailed analysis is not feasible until completion of the smooth sheet.

N. DANGERS & SHOALS:
No new dangers or shoals were found.

O. COAST PILOT INFORMATION:
Oystermen in South Samish Bay maintain privately, various channel markers which they relocate as necessary to correspond to changes in the meandering channels in this area. Reference may be made to 1956 Coast Pilot Report for additional details.

P. GEOGRAPHIC NAMES:
Included in the 1956 Geographic Names Report.

Q. LANDMARKS FOR CHARTS:
Contained on Form 507.

R. GEOGRAPHIC NAMES:
Not applicable to the 1956 work.

S. SILTED AREAS:
Extensive silted areas exist in the southern part of Samish Bay. The echo soundings were scaled to the top of the fathogram trace. For charting purposes, no clear line of demarkation is feasible.

T - Y
Not applicable.

Z. TABULATION OF DATA:

1955 Descriptive Report	Fwd'd. to Seattle Proc.Off.
1956 Triangulation Data	" " Washington Office
1956 Graphic Control Report	" " " "
Graphic Control Sheets, HO-F-55, HO-H-55, HO-I-55 and LJ-A-56	" " Seattle Proc. Off.
* 1956 Photogrammetric Data	" " ~~Portland Photo.Off.~~
1956 Tide Data, Urban Landing, Sinclair I.	" " Washington Off.
1956 Tide Curves, hourly heights & reducers	" " " "
1956 Serial Temperatures & Graphs	" " " "
1956 Velocity Corr'n.Abstract appended to this report.	
1956 Fathometer Report	Fwd'd. to " "
1956 Fathometer Corr'n. Abstract appended to this report.	
1956 Magnetic Data on Station MISH, 1956	Fwd'd. to Washington Office
1956 Coast Pilot Report	" " " "
1956 Geographic Names Report	" " " "
1956 Season's Report	" " " "

* included with 1956 hydrographic records.

Respectfully submitted,
P. A. Stark
P. A. STARK, LT., C&GS

TIDE NOTE TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8317 (HD-1355)

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.

original in Volume I

ADDITIONAL SIGNALS ESTABLISHED IN 1956
HYDROGRAPHIC SURVEY H-8317 (HO-1355)

NAME	SOURCE
ADA	HO-H-55
BAB	HO-H-55
BEE	Vol. 1
BOY	Vol. 1
CEN	Vol. 1
CHY	CHY, 1951
COL	HO-H-55
DIN	HO-H-55
DOW	Vol. 1
DUC	Vol. 1
EKE	HO-H-55
FISH	FISH, 1956
FIT	Vol. 1
FLO	HO-H-55
GAR	Vol. 1
GUS	HO-H-55
HOP	HO-H-55
IMP	HO-H-55
JAB	LJ-A-56
KIN	LJ-A-56
LOT	LJ-A-56
MAW	LJ-A-56
MISH	MISH, 1956
NUT	LJ-A-56
OAF	LJ-A-56
OY	T-5587-N
PAL	LJ-A-56
POLE	POLE, 1951
RAM	LJ-A-56
ROCK	ROCK
SAC	LJ-A-56
SIG	T-5587-N
SIT	T-5587-N
TED	T-5587-N
TEE	LJ-A-56
URN	LJ-A-56
VEX	LJ-A-56
WAX	Vol. 1
WHO	LJ-A-56
YAK	LJ-A-56
YEL	T-5587-N
ZAM	T-5587-N
ZIP	LJ-A-56

STATISTICS FOR HYDROGRAPHIC SURVEY
H-8317 (HO-1355)
SHIP LESTER JONES - 1956 WORK ONLY
PROJECT 12410

DATE	VOL.	DAY LTR.	NO.POS.	STAT.MILES	L.L.SNDGS.
SHIP LESTER JONES					
23 April	~~I~~ 12	A	177	28.6	- -
8 May	~~I~~ 12 & ~~II~~ 13	B	220	52.9	- -
20 May	~~II~~ 13 & ~~III~~ 14	C	163	41.4	- -
22 May	~~III~~ 14	D	111	30.3	- -
23 May	~~III~~ 14	E	20	1.5	~~14~~
TOTALS			691	154.7	14
LAUNCH 176					
24 April	~~1~~ 6	a	219	22.2	- -
25 April	~~1~~ 6 & ~~2~~ 7	b	169	21.7	- -
26 April	~~2~~ 7	c	145	16.1	2
5 May	~~2~~ 7	d	~~28~~	2.3	4
6 May	~~2~~ 7 & ~~3~~ 8	e	170	15.7	4
7 May	~~3~~ 8	f	200	23.1	- -
8 May	~~4~~ 9	g	201	27.8	3
10 May	~~4~~ 9	h	104	13.2	6
17 May	~~5~~ 10	j	188	19.7	3
18 May	~~5~~ 10 & ~~6~~ 11	k	168	25.6	- -
23 May	~~6~~ 11	m	65	9.4	4
24 May	~~6~~ 11	n	69	12.3	- -
TOTALS			1,~~700~~ 27	209.1	26
TOTAS FOR SHIP HODGSON			1055	209.6	248
TOTALS FOR SHEET			3473	573.4	288

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

APPROVAL SHEET

Field work was done under the supervision of the Chief of Party and the hydrography 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-8317

SMOOTH SHEET

The smooth sheet projection was hand constructed and checked by ships' officers. Triangulation was plotted and checked by same. The shoreline, topo and hydro stations were transferred and plotted by ship personnel and checked by the Seattle Hydrographic Processing Unit.

CONTROL STATIONS

From same sources ad noted in the Field Reports.

SHORELINE AND TOPOGRAPHY

Shoreline for Huckleberry, Saddlebag and Guemes Islands south of Lat. 48° 33' 45" is from T-11229. Shoreline for Samish Island and mainland west of Long. 122° 30' is from T-5587. Both of the above topo sheets are photo manuscripts. The balance of the shoreline is from T-1794 dated 1887.

CONTROL OF HYDROGRAPHY

Positions for "a" day thru "e" day, launch 176 (blue) were all plotted, using a three-arm protractor, by ship personnel. The balance of the positions were transferred from film positives of the boat sheet, except for about 10% which were plotted to check the boat sheet plotting.

ADEQUACY OF SURVEY

The survey is considered complete and adequate for charting.

Junctions with H-8318 and H-8331 have been compared and are satisfactory except for soundings over the mud flats south of Samish Island, where a heavy growth of grass makes the scanning of the fathograms very uncertain.

The junction with H-8319 will be compared when that sheet is completed.

CROSSLINES

Crosslines in deeper water are in agreement. Those over the flats south of Samish Island are not in agreement, apparently because of heavy grass. Some soundings on very shoal lines on "d" day launch 177 (brown), were not plotted because the top of the sounding trace could not be verified on the fathogram. Soundings on "a" launch 134 (green) did not give agreement and except where the sounding line ran across a channel. In most cases the soundings on this day are two to three tenths of a fathom shoaler than those from other days, hence nearly all of the soundings for the forty-six positions of this day were omitted.

COMPARISON WITH CHART

The smooth sheet has been compared with Chart 6378 II Ed. Revised 8-13-56.

In depth over three fathoms the agreement appears to be quite good. In the shoal area south of Samish Island the three fathom curve appears to have been shifted somewhat. No detailed comparison was made with soundings of less than three fathoms but from the character of the bottom and a casual comparison, it is believed that there are numerous changes.

See section of Chart 6378 attached (destroyed) to this report for notable differences.

Respectfully submitted

William M. Martin

William M. Martin
Supervisory Cartographer

APPROVED & FORWARDED:

G. C. Mast

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

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~

17 August 1959

Division of Charts: R. H. Carstens

Plane of reference approved in
14 volumes of sounding records for

HYDROGRAPHIC SHEET 8317

Locality Padilla - Bellingham Bays, Washington

Chief of Party: A. M. Stewart) K. B. Jeffers) in 1955-56

Plane of reference is mean lower low water, reading
6.7 ft. on tide staff ~~xx~~ (1955) at Anacortes
14.0 ft. below B. M.2 (1921)

8.0 ft. on tide staff (1956) at Urban Landing, Sinclair I.
19.1 ft. below B.M. 1 (1955)

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

Anacortes		7.4 feet
Sinclair Island	=	7.5 feet

Condition of records satisfactory except as noted below:

William Shofnos

Chief, ~~XXXXXXXXXX~~ Tides ~~XXXXXXXXXX~~
Branch

OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8317 FIELD NO. HO-1355

Bellingham Bay, Samish Bay, and Northern Part of Padilla Bay

SURVEYED: June - August 1955, April - May 1956

SCALE: 1:10,000 PROJECT NO.: 1241

SOUNDINGS: 808 Depth recorder, Wire soundings, Leadline, sounding pole CONTROL: Sextant fixes on shore signals

Chief of Party	A. N. Stewart
	P. Taylor
	K. B. Jeffers
Surveyed by	K. B. Jeffers
	P. A. Stark
	J. J. Dermody
	A. N. Stewart
	M. J. Tonkel
	R. C. Munson
Protracted by	Positions transferred from boat sheet by Seattle Processing Office
Soundings Plotted by	W. Martin
Verified and Inked by	A. K. Schugeld
	J. T. Gallahan
Reviewed by	E. Thomas
	Date: 02/19/64
Inspected by	R. H. Carstens

1. Description of the Area

The present survey covers the southern portion of Samish Bay and the northern part of Padilla Bay.

The offshore areas have a smooth bottom configuration in general depths of 8 to 16 fathoms. In two isolated areas,

one northwest of William Point, and the second offshore of Boat Harbor, the bottom drops abruptly into submerged basins where depths are as great as 35-40 fathoms.

Extensive mud flats off the land areas of Samish Island are exposed at lower stages of the tides. The narrow, unstable channels in these areas require local knowledge to navigate.

2. Shoreline and Control

The shoreline originates with reviewed photogrammetric surveys T-11229 of 1952-53 south of lat. 48°33.75' on Guemes Island; east of long. 122°30' the shoreline originates with T-5587 N&S of 1949-54. The remainder of the shoreline is transferred from T-1794 of 1887. The piers shown on T-1794 in lat. 48°34.65, long. 122°32.01' and lat. 48°34.78', long. 122°32.41' have been transferred as submerged pier ruins.

The signals are adequately described in the Descriptive Report. The smooth sheet is the authority for the signal transferred from temporary graphic control sheets which are destroyed.

3. Hydrography

A. Depths at the crossings are in good agreement.

B. The usual depth curves are adequately delineated except for portions of the low-water curve.

C. The development of the bottom configuration and investigation of least depths is considered adequate.

4. Condition of the Survey

The field plotting, sounding records, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual except that soundings on the boat sheet south of Samish Island are shown in feet whereas all other soundings were plotted in fathoms.

Heavy grass on the bottom south of Samish Island hampered obtaining soundings with the fathometer and created problems in interpretation. Pole soundings were utilized to supplement the fathometer soundings.

Triangulation station SAMISH ISLAND, OYSTERHOUSE, SOUTH GABLE, 1939, 1950, was not recovered in 1955. A 44-ft. portion of the warehouse containing the station had been removed. The prior triangulation station was shown on the smooth sheet during smooth plot and verification. It was revised to the corrected topographic location during review and is signal Sam.

5. Junctions

An adequate junction was effected with H-8319(1956) on the north. The junctions with the unverified surveys H-8331(1955) on the south and H-8318(1955-56) on the west will be discussed in the reviews of those surveys.

6. Comparison With Prior Surveys

H-1815 (1887) 1:20,000

This survey is the only prior coverage of the area common with the present survey. A comparison with this survey reveals no significant differences between the prior and present surveys in depth greater than 2 fathoms. However, the more thorough coverage of the present survey defins the bottom configuration more completely in these deeper depths. In the inshore mud flat areas the courses of the natural channels have been altered somewhat by natural causes and slight differences in depths on the flats result in large movement of the low-water curve from shore.

Attention is directed to the following features:

1. The submerged portion of the pier previously charted in lat. 48°34.6', long. 122°32.00' from T-1794(1887), revised to ruins on Chart 6378 prior to 1945, was not investigated on the present survey. A trace on the graphic profile from the depth recorder indicates submerged ruins exists and the feature should be charted. This same condition is assumed to prevail for the pier previously charted in lat. 48°34.8', long. 122°32.4'.

2. The pier charted in lat. 48°34.10', long. 122° 37.24' from T-1794(1887), the source of the smooth sheet shoreline, was not investigated on the present survey. A single sounding line across the

feature was made at high water. Since the feature was not adequately disproved, the feature has been revised to ruins on the smooth sheet.

3. Soundings were carried forward from H-1815(1887) to the smooth sheet of the present survey in low-water areas where the prior survey indicated the existence of natural channels and as necessary to complete the low-water curve in several areas. The shoreline from T-5587(1949-54) indicates that Fish Point, in lat. 48°34.54', long. 122°29.64', has undergone accretion and has further constricted the natural channels since the 1887 survey.

The present survey, with the addition of the soundings and bottom characteristics mentioned above, is considered adequate to supersede the prior survey.

7. Comparison With Chart 6378 (latest print date 05/22/61)

A. Hydrography

The charted hydrography originates principally from the 1887 survey discussed previously and is supplemented by partial application of information from the unverified smooth sheet.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Topography

Portions of the shoreline charted from T-1794(1887) and T-1795(1887) covering an area common with T-5587 (1949-54) have not been revised from the more recent survey.

The ruins charted in lat. 48°33.55', long. 122°29.12' apparently originate with advance information from T-5587 and are not now a part of the registered survey.

C. Aids to Navigation

The aids to navigation, William Pt. Light, on the present survey is in substantial agreement with the charted position.

5.

8. Compliance With Instructions

The survey adequately complies with the project instructions.

9. Additional Field Work

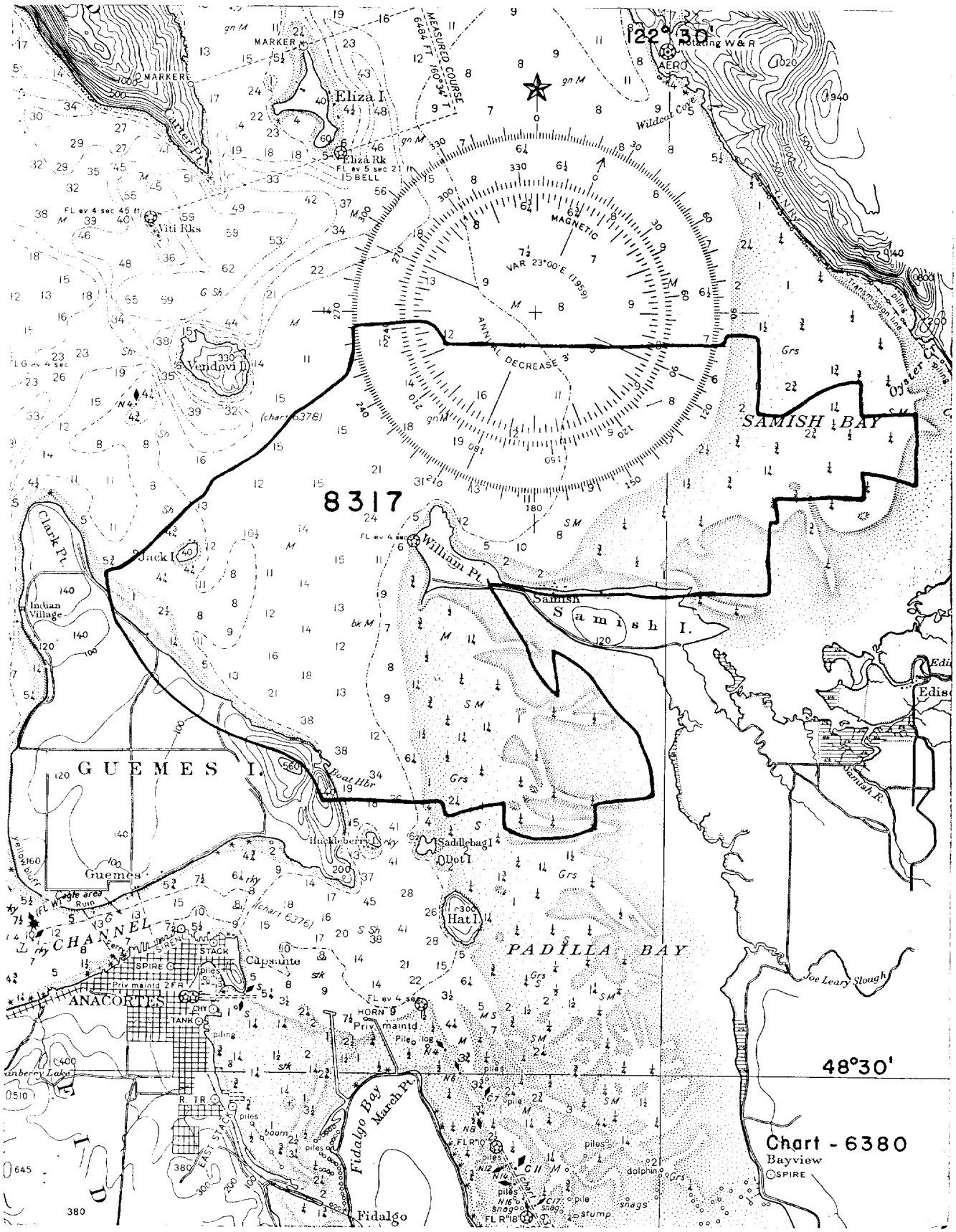
This survey is considered to be an adequate basic survey. The pier ruins discussed in section six should be adequately verified or disproved when practicable.

Future surveys in this area could well provide a more detailed coverage of the natural channels crossing the inshore flats.

Examined and Approved:

Chief
Marine Chart Division

Associate Director
Hydrography and
Oceanography


122° 30'
48°30'
8317
SAMISH BAY
Samish I.
GUEMES I.
PADILLA BAY
Eliza I.
Eliza Rk
Viti Rks
Vendovi I.
Jack I.
William Pt.
Clark Pt.
Indian Village
Boat Hbr
Guemes
Saddlebag I.
Dot I.
Hat I.
Capsante
ANACORTES
CHANNEL
Fidalgo Bay
March Pt.
Fidalgo
Joe Leary Slough
Samish R.
Edis
Wildcat Cove
MAGNETIC
VAR 23°00'E (1959)
ANNUAL DECREASE 3'
MEASURED COURSE
Chart - 6380
Bayview
SPIRE

NAUTICAL CHARTS BRANCH

SURVEY NO. H-8317 (1955-1956)

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
7/31/59	6300	M. Rogers	Examined Before ~~After~~ Verification and Review - No Corrections
8/20/59	6378	Nichols	Before ~~After~~ Verification and Review Partially applied.
3-1-60	6380	M. Rogers	Before ~~After~~ Verification and Review thru 6378 JRS 3-1-60
8-2-65	6300	G. R. Johnson	~~Before~~ After Verification and Review Partly app'd
4/28/67	6378 (18424)	W N Mall 5/67	~~Before~~ After Verification and Review before inspection added Pier ruins, partly app'd
2/21/68	6380	W N Mall	~~Before~~ After Verification and Review before inspection added Pier ruins thru review; Partly app'd
4/23/69	6378	F.W. Malang	~~Before After~~ AFTER Verification and Review But before Inspection
7/23/69	(18421) 6380	O. Svendsen	Full application & Inspection ~~Before~~ After Verification and Review Applied thru Chart 6378 (Dwg #18). Examined inspection notes, no revision required.
10/23/69	(18423) 184	R.A. Lillis	Fully appl'd ~~Before~~ After Verification and Review appl'd thru charts 6378 Dwg #18 and 6380 Dwg. #35
7/80	18400	Cortes 7-29-80-RC	~~Before~~ After Verification and Review Dwg # 45 thru chart 18421, fully applied
7/80	18424	Cortes 7-29-80 RC	FULL: After VER., REV., INSP. Dwg # 24

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.