

7962

Diag. Chart No. 6380-2

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. PA-1153 Office No. H-7962

LOCALITY

State WASHINGTON

General locality GEORGIA STRAIT

Locality CHERRY PT. TO SANDY PT.

1953

CHIEF OF PARTY

JOSEPH P. LUSHENE

LIBRARY & ARCHIVES

DATE MAR 4 1953

B-1870-1 (1)

7962

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. ....

Field No. PA-1153

State Washington

General locality Georgia Strait

Locality Cherry Pt. to Sandy Pt.

Scale 1:10,000 Date of survey 8 - 16 January 1953

Instructions dated Director's Letter Refer to 22/MEK, D-2-NW, dated 2 Dec. 1952

Vessel PATTON

Chief of party Joseph P. Lushene

Surveyed by William D. Barbee, Joseph P. Lushene, J.W. Flint

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

Fathograms scaled by H. H.

Fathograms checked by H. H.

Protracted by Wm. M. Martin

Soundings penciled by Wm. M. Martin

Soundings in fathoms feet at MLW MLLW and are true depths

REMARKS: Sounding taken on both fathom and foot scales, corrected to feet in sounding volumes, and plotted in feet.

*Handwritten initials*

DESCRIPTIVE REPORT TO ACCOMPANY

SPECIAL HYDROGRAPHIC SURVEY

FIELD NO. PA-1153

GEORGIA STRAIT, WASHINGTON

SCALE: 1:10,000 DATE 1953

USC&GSS PATTON, JOSEPH P. LUSHENE COMDG.

A. PROJECT

Field work was accomplished in accordance with Director's Letter, reference number 22/MEK, D-2-NW, dated 2 December 1952.

B. SURVEY LIMITS AND DATES

This sheet covers the area in Georgia Strait from Cherry Point to Sandy Point, a distance of approximately five miles. Survey extends from the MLLW line offshore one mile.

C. VESSELS AND EQUIPMENT

Approximately 50% of the hydrography was accomplished by the Ship PATTON, using 808-type recording fathometer number 74. The remainder of the work was done by Ship EXPLORER'S Launch 3, operated by personnel from the Ship PATTON. An 808-type recording fathometer number 50 was used aboard this craft.

Bottom samples were taken from the ship using

the electric sounding machine, and from the launch by means of a hand lead.

D. TIDE AND CURRENT STATIONS

Reduction of soundings was based on the values obtained from the portable tide gage established at Fisherman's Cove, Hale Passage.

There were no current stations within this area concurrent with this survey.

E. SMOOTH SHEET

The smooth sheet will be constructed and plotted by personnel of the Seattle Processing Office.

F. CONTROL STATIONS

Location of hydrographic signals for this survey was accomplished by means of a closed planetable traverse, which began at triangulation station SANDY 1949, and closed at recoverable topographic stations NEPT 1949, and WATT 1949. All recoverable topographic stations used were located by a field party under the Division of Photogrammetry in 1949.

*See Processing Office Report for final adjustment of traverse.*

During the <sup>graphic control</sup> topographic survey, it was discovered that the topographic control system was not consistent--; one or more stations being misplaced by an estimated 100 meters. In order to isolate this anomaly, theodolite cuts were taken to various topographic stations--those established in 1949, along with current stations--from triangulation stations MIG 1941 and EWING 1941. As a result, it was found that the geographic position furnished for topographic station WATT 1949 was inaccurate.

*G.C. Survey Pa-A-53 destroyed*

The stations located by means of the planetable traverse were then re-plotted holding the location of SANDY, NEPT, and the predetermined location of WATT. With this arrangement, control was adequate and satisfactory.

#### G. SHORELINE AND TOPOGRAPHY

At the beginning of the project, this party was furnished Topographic Manuscripts No. T-5583N and T-5583S from which to take shoreline detail.

(1949-52)

84  
85  
86  
87

Upon the discovery of the mislocation of Station WATT 1949, which was used to control these manuscripts, a new manuscript was requested from the Portland Photogrammetric Office.

A rough attempt was made to fit the shoreline furnished to the re-located topographic signals. This gave a satisfactory shoreline for field use.

*\* A subsequent investigation by the Div. of Hyg., reveals that the erroneous position of signal Watt had no effect on the position of the shoreline and other map details. Signal Watt is now correctly plotted on the manuscript. R.E.E. 9-15-53*

#### H. SOUNDINGS

Soundings were taken with 808-type recording fathometers. Those soundings from the Ship PATTON--which constituted all work of a depth greater than approximately 55 feet--were on the fathom scale. These soundings were reduced in fathoms, then converted, and so plotted on both the boat and smooth sheets.

The 808-type fathometer aboard Launch 3 was operated on the foot scale, and the soundings were reduced and plotted in feet.

Soundings were reduced in the same manner for both vessels.

1. Draft of vessel was determined by accurate means, and the initial was set accurately.
2. Depth comparisons by means of suspended bars, vertical casts, or handleads were obtained, and the corrections were graphed.
3. Soundings were reduced by the reducers so determined. This correction combines any instrument correction present with the correction due to velocity.
4. Correction for deviation of the initial was applied.
5. Tide corrections were applied  
*(The Fathometer Report is filed with the fathograms)*

#### I. CONTROL OF HYDROGRAPHY

Hydrography was controlled by three-point sextant fixes. Signals were those described in Paragraph F and in addition, some objects ashore located by hydrographic means. On "d" day, Launch 3, the ship was anchored with a short scope, the jackstaff was located by sextant fix, and was used for a signal by the hydrographic party. This position was re-determined at ten-minute intervals during the entire period that it was in use, and no change in position was noted.

#### J. ADEQUACY OF SURVEY

This survey is, within its limits, adequate and complete, and should supersede all previous surveys.

#### K. CROSSLINES

Crosslines constitute 8.4% of the total hydrography on this sheet. Crossings are good, as far as can be determined on the boatsheet.

#### L. COMPARISON WITH PRIOR SURVEYS

Previous survey of this area was a 1:20,000 sheet H-2079, accomplished in 1891. The sounding lines were very widely spaced, and there was almost no development. The new survey is much more detailed and complete.

L. COMPARISON WITH PRIOR SURVEYS cont'd

There is good agreement in depths above parallel 48° - 50' N, but below that, H-2079 appears to be shoaler by from 6 to 9 feet, although this is not a consistent difference. From the nature of the bottom--flat, muddy--it would not appear logical that the actual depth had changed, so no reason for the discrepancy is advanced.

*In comparison, the hydrographer evidently didn't add fractional depths and tide factor for H-2079. Generally good agreement over entire survey*

M. COMPARISON WITH CHART NO. 6380

Comparison with Chart No. 6380 is generally good. No detailed comparison could be made, because of the small scale of the chart.

N. DANGERS AND SHOALS

There are no dangers or shoals within the limits of this survey. The only rock found off the MLLW line was a rock which bars <sup>3</sup> feet at MLLW, located 48° - 49.<sup>.62</sup> N, 122° - 42.<sup>.66</sup> W, off topographic signal GAD. Since this rock is within 100 meters of the high water line, it is not considered a danger.

*other rocks from topo. sheet 7-5583*

O. COAST PILOT

Since this was a special project, Coast Pilot notes were not furnished.

P. AIDS TO NAVIGATION

There are no aids to navigation within the limits of this survey.

Q. LANDMARKS FOR CHARTS

Not applicable to Special Survey. ✓

R. GEOGRAPHIC NAMES

Not applicable to Special Survey. ✓


S. SILTED AREAS

The entire area of the survey varies from mud to sand and mud. From comparison with old surveys, the bottom appears to be stable. ✓


T. - Z.

No applicable information under these headings. ✓

Respectfully submitted

  
William D. Barbee  
Ensign, USC&GS

Approved and Forwarded:

  
Joseph F. Lashene  
CDR USC&GS  
Cmdg., Ship PATTON



Pa 1153

Sandy Point to Cherry Point

Washington.

Processing Office Notes.

Smooth sheet.

The projection was made by hand on Whatman paper. The shoreline and the rocks shown in ink are from T 5583 N (1949-52) and T 5583 S. The position of  $\Delta$ SANDY is on lithographed page 1359 of Washington State GP's. Topographic signals are from graphic control plate Pa-A-53. Both sides of this plate were used. The signals\* from  $\Delta$ Sandy to  $\odot$ NEPT (a described photo topo sta.) were used as they appear on the plate.

\* except E. Gable which was plotted according to the 1953 triangulation position.

*See the review of Graphic Control Survey PA-A-53, filed with this Descriptive Report (H-7962), for disposal of the plane table sheet.*

Adjustment of graphic control signals.

All signals north of  $\odot$ NEPT were shifted on Pa#A-53.

When sounding, discrepancies were evident to the field party.  $\odot$ ABE as determined from the traverse along the beach was 150 meters from the position obtained from the marked and described section corner near by. The topographer adjusted the traverse on the assumption that the positions of NEPT and WATT were correct and the section corner in error. Then he was transferred to another assignment and further adjustments were made in the processing office.

To find the cause of the discrepancies and eliminate them the field party located Stations FAR, EAR, KYNE, WATT & ABE, <sup>E. GABLE</sup> by triangulation. In the processing office these points were plotted on the graphic control sheet. Holding  $\odot$  NEPT and  $\Delta$  FAR signals GAD and PAT were adjusted. DAW was adjusted between  $\Delta$  EAR and  $\Delta$  WATT. The other signals were adjusted between  $\Delta$  WATT and  $\Delta$  ABE. We note that the position of  $\Delta$  ABE is a millimeter southwest of the position obtained with the planetable at the section corner, whence we infer that the GP of the section corner should be moved an equal distance to SW.

Questionable  
because of  
uncertain  
azimuth

The positions north of  $\odot$  NEPT which were used on the smooth sheet appear in pencil on the graphic control sheet.

The direction of the magnetic needle was corrected. The original observation was made at WATT with orientation on NEPT. The angle between the orienting line and the needle was obtained. It was centered at  $\Delta$  WATT with one leg on NEPT. The other leg is the corrected direction of the magnetic needle.

1953 Triangulation  
Theodolite cuts - Acc. No. G-10185  
Computations - GTZ G-10187

Rocks.

The launch party located ~~six~~<sup>9</sup> rocks awash which are prominently noted on the sheet. There are sextant fixes on four of them.

All rocks shown in ink are from T 5583.

There is a large bare rock at  $\phi$   $48^{\circ} 49'.56$  just off the shoreline. The graphic control sheet gives the height as 5 ft. *Corrected on T-5583 (error found). EHR*  
T 5583 shows it 9 ft. high. The C O P stood on this rock. From memory he thinks 5 ft. above MHW more correct than 9 ft. Mr. Barbee holds the same view. The photogrammetric position was used.

There is a sounding of -3 ft. at  $\phi$   $48^{\circ} 49'.63$   $\lambda$   $122^{\circ} 42'.66$ . This is at Pos. 14-b day. The sounding party examined this area again with the hand lead. See 37 d day. They found boulder bottom but no shoaler depth. They explained further that during the period of the work tides were high during the day and low tides came at night, so the rock was not seen.  
(shown as a rock awash)

Crossings.

Good.

Dangers.

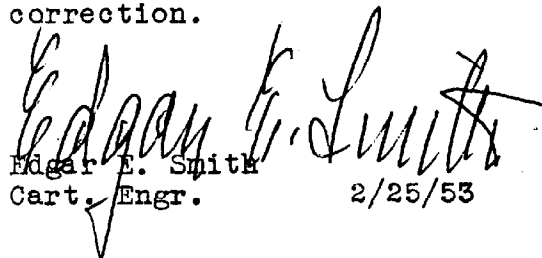
The -3 ft. sounding above could damage small boats running close to the beach.

© HIP.

The ship anchored here to give the launch an offshore signal when running lines close inshore and unable to span with the sextant the angles between signals. A strong, steady breeze persisted so that the vessel hardly moved in its position. Repeated fixes were taken at the ship but the shift when plotted on the sheet is scarcely half a millimeter. When used, positions were entirely satisfactory.

Copies to interested people.

Photostat copies of the boatsheet, and later of the smooth sheet were furnished to Bechel Corporation, 62 1st. Street, San Francisco, Cal. In each case it was noted that the sheet is subject to correction.

  
Edgar E. Smith  
Cart. Engr. 2/25/53

Pa 1153

Tidal Note.

Fishermans Cove, Hale Passage.

Portable Automatic Gage  
maintained 8 - 16 January 1953.

φ	48	43.9
⊗	122	40.2

Pa 1153

Sandy Point to Cherry Point, Wash.

Statistics.

1953 Jan.	Vol.	Vessel	Day	Positions.	Stat. Mi. Sounding Line.
8	1	Patton	A	15	3.7
9	1	"	B	83	18.8
10	1	"	C	199	37.8
16	1&2	"	D	210	26.0
11	3	Launch 3	a	136	25.5
12	3	"	b	187	34.2
13	4	"	c	106	13.9
14	4	"	d	<u>131</u>	<u>14.9</u>
		Totals		<u>1067</u>	<u>174.8</u>

Squ. Stat. Mi.                      5.2

Summary of Corrections applied to the Soundings

H-7962 (1953)

Launch No. 3 (soundings in feet)

<u>Depth - ft.</u>	<u>Correction - ft.</u>
0 to 4.0	-0.4
4.5 - 8.5	-0.2
9.0 - 14	0.0
15 - 23	+0.5
24 - 35	+1.0
36 - 42	+1.5
43 - 51	+2.0
52-----	+2.5

Ship PATTON (soundings in fathoms).

<u>Depth - fm.</u>	<u>Correction - fm</u>
0 to 17.2	-0.1
17.4 - 40	-0.2

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## List of Signals

Hydrographic Survey H-7962 (1953)

<u>Signal</u>	<u>Source</u>
ABE	ABE, 1953
WATT	WATT, 1949,53
EAR	EAR, 1953
FAR	FAR, 1953
E. GABLE	E. GABLE, 1953
SANDY	SANDY, 1949
<del>NIT</del> <i>Nit</i>	PA-A-53
<del>WIT</del> <i>Wit</i>	"
Cab	"
Yet	"
Zag	"
Daw	"
Gad	"
<del>Pet</del> <i>Pat</i>	"
Hay	"
Ice	"
Jap	"
Ken	"
Lad	"
Zoo	H-7962
Hip	"

The 1953 theodolite cuts are filed as Acc. No. G-10185.  
 The 1953 triangulation computations are filed as GTZ G-10187.

The Graphic Control Survey Descriptive Report (PA-A-53) is filed with the Descriptive Report for H-7962

R. E. Elkins  
 9-18-53

Pa 1153

Washington State.

List of geographic names  
penciled on smooth sheet.

Georgia Strait

Cherry Point

Sandy Point



GEOGRAPHIC NAMES

Survey No. H-7962

Name on Survey										
	A	B	C	D	E	F	G	H	K	
	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List		
<u>Washington</u>									Boat	1
<u>Georgia Strait</u>									"	2
<u>Sandy Point</u>										3
<u>Cherry Point</u>										4
										5
										6
										7
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										27
										28

Names underlined in red are approved 3-16-53 L. Heck

N.B. Name Fisherman's Cove in Hule Passage not known. (used in tide note)

DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

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. PA-A-53

REGISTER NO.

State Washington

General locality Georgia Strait

Locality Cherry Point to Sandy Point

Scale 1:10000 Date of survey 17 December, 1952 to  
13 January 1953

Vessel PATTON

Chief of party Joseph P. Lushene

Surveyed by Julian W. Flint

Inked by Julian W. Flint

Heights in feet above \_\_\_\_\_ to ground to tops of trees

Contour, Approximate contour, Form line interval \_\_\_\_\_ feet

Director's letter dated 2 December 1952,  
Instructions dated Refer to 22/MEK, D-2-NW, 19\_\_\_\_

Remarks: Graphic Control

DESCRIPTIVE REPORT TO ACCOMPANY  
TOPOGRAPHIC SHEET NO. PA-A-53  
GEORGIA STRAITS, CHERRY PT. TO SANDY PT.  
USC&GSS PATTON, JOSEPH P. LUSHENE, CHIEF OF PARTY  
1953

AUTHORITY:

Field work was accomplished in accordance with  
Director's letter, refer to: 22/MEK, D-2-NW, dated 2 December 1952. ✓

PURPOSE:

The purpose of this survey was for graphic location  
of signals for a special inshore hydrographic survey. ✓

LOCALITY:

The area surveyed lies in Georgia Strait, Wash-  
ton, from Cherry Pt. to Sandy Pt. ✓

DESCRIPTION:

The area surveyed is along the bluff line and high  
water line between Cherry Pt. and Sandy Pt. The survey was started  
at Station WATT 1949 and run to Station NEPT 1949. When set up at  
Station WATT 1949 and orientated on Station NEPT 1949, orientation  
failed to intersect station KYNE 1949 by approximately 100 meters.  
The traverse between WATT 1949 and NEPT 1949 was run using NEPT 1949  
for orientation. The traverse checked in azimuth and was 27 meters  
short in distance. This traverse was adjusted.

?  
(this traverse was subsequently adjusted to 1953 triangulation,  
see Processing Office Report H-7962 (1953).)

The traverse from station SANDY 1949 to NEPT 1949 was run using station E. GABLE for orientation. Azimuth check on station NEPT 1949 was good and the distance was 14 meters short. The traverse was adjusted.

A signal called ABE was erected as an eccentric signal for Section Corner T-39-N, R-1-W, 1949. During the progress of the hydrography, a jump was noted in this station and a traverse was run from WATT 1949 to ABE to verify its position. The traverse to this signal failed to check its plotted position by 150 meters to the west. The traverse was run from station WATT 1949 using NEPT 1949 as orientation. While running this traverse, checks were made on the signals located by the traverse from WATT 1949 to NEPT 1949. The intersections of all these signals was very good, showing the traverse is rigid within itself. The traverse between WATT 1949 and signal ABE is an unadjusted traverse. *(this traverse was also subsequently adjusted to 1953 triangulation, see Processing Office Report H-7962 (1953).)*

DETAILS OF SURVEY:

Only one triangulation station, SANDY 1949, was available. *(5 additional  $\Delta$  stations were located in 1953)* The other stations used to control the graphic location are pricked photo locations. Station WATT 1949 is a recoverable topographic bronze disc stamped WATT 1949. Station NEPT 1949 is a wooden observation tower. Station Section Corner T-39-N, R-1-W, 1949 is also positively identified. The poor checks at Section Corner T-39-N, R-1-W 1949, and at KYNE 1949 cannot be accounted for. *(See "Endorsement" for reason of poor checks, and see Processing Office Report H-7962 for method of adjustment.)*

GEOGRAPHIC NAMES:

No report on Geographic Names has been submitted with this survey.

COMPARISON WITH PREVIOUS SURVEYS:

Due to the limited extent of actual topography accomplished on this sheet, comparison is meaningless.

MAGNETIC DECLINATION:

Magnetic declination was taken at station WATT 1949.

RECOVERABLE TOPOGRAPHIC STATION:

No new recoverable topographic stations were established. Station WATT 1949 is marked with a standard topographic disc, and was recovered in good condition.

REGISTRY NUMBERS:

No registry number was given to this sheet.

Submitted by

*Julian W. Flint*

Julian W. Flint  
Ensign, USC&GS

Approved and Forwarded:

*Joseph P. Lushene*  
Joseph P. Lushene  
CDR USC&GS  
Cmdg., Ship PATTON

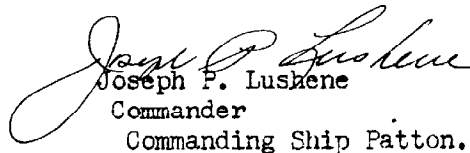
see ENDORSEMENT

ENDORSEMENT

To trace the difficulty in the graphic control to obtain good checks, triangulation stations, EWING 1941, and MIG 1941 were occupied and cuts taken to ABE, WATT 1949, KYNE 1949, EAR, FAR, and East Gable. The positions of these signals as computed by cuts checked very well except for WATT 1949. This station was found to be off in latitude 22 meters and in longitude 108 meters. To check this discrepancy the station SANDY 1949 was occupied and computations show the discrepancy to be correct. The traverse run on one side of the aluminum topographic sheet was based on WATT 1949 as the origin with NEPT 1949 as the azimuth. Since WATT 1949 is out of position the traverse is out in orientation. For the smooth sheet it is recommended that WATT 1949 and EAR, Far and ABE be held and other signals swung into azimuth. All traverses and signals south of NEPT 1949 are good and need no adjustment. (1)

The shore line of the topographic manuscript is also out between WATT 1949 and NEPT 1949 since it is based on an erroneous position of WATT 1949. (2)

Theodolite cuts - Acc.No. G-10185  
Computations - GTZ G-10187

  
Joseph P. Luskene  
Commander  
Commanding Ship Patton.

(1) For adjustment of signals north of © Nept see Processing Office Notes in descriptive report for hydrographic sheet (Pa 1153).

H-7962 (1953)

  
E.E. Smith

(2) An investigation by the Div. of Photogrammetry reveals that the erroneous position of signal Watt had no effect on the position of the shoreline and other map details. Signal Watt is now correctly plotted on the manuscript. R.E.E. 9-19-53

Review of Graphic Control Survey PA-A-53 (1953)

This survey made for the purpose of locating additional signals for the control of hydrography, on H-7962 consists of three planetable traverse sections run between photogrammetric stations and a single triangulation station at the southward end.

To determine the reason for 100 meter differences with photogrammetric details at the northward end of the traverse, 5 additional triangulation positions were determined; which revealed a 100 meter error in the position of one of the topographic stations originating with T-5583 (1949-52).

The two northward traverse sections were then adjusted on the Graphic Control Sheet, to the new triangulation control as outlined in the Processing Office Report H-7962 (1953).

This Graphic Control Survey after adjustment to the 1953 triangulation is considered adequate for the purpose intended, and all pertinent information is now shown on the smooth sheet H-7962 (1953). The planetable sheet is indicated for destruction.

R. E. Elkins - Reviewer  
Hydrographic Survey Section  
9-18-53

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. *H-7962* .....

Records accompanying survey:

Boat sheets *1*....; sounding vols. *4*....; wire drag vols. ....;  
 bomb vols. ....; graphic recorder rolls *4 Env.*....;  
 special reports, etc. *1 smooth sheet; 1 descriptive report;*.....  
*1 fathometer report (filed with fathograms); 1 vol. of theodolite cuts (filed*  
*as Acc. No. G-10185); 1 set of triangulation computations (filed as GTZ G10187);*  
*1 graphic control survey, PA-A-53 (filed with this survey, H-7962).*

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

Number of positions on sheet	.....	<i>1067</i>	
Number of positions checked	.....	<i>28</i>	<i>150</i>
Number of positions revised	.....	<i>1</i>	<i>0</i>
Number of soundings revised (refers to depth only)	.....	<i>18</i>	<i>0</i>
Number of soundings erroneously spaced	.....	—	
Number of signals erroneously plotted or transferred	.....	—	
Topographic details	Time	<i>6</i>	—
Junctions	Time	.....	<i>15 hrs</i>
Verification of soundings from graphic record	Time	<i>3</i>	<i>45 hrs</i>
Preliminary Verification	<i>D.R. Engle</i>	<i>34 hrs</i>	<i>5-1-53</i>
"	<i>R.E. Elkins</i>	<i>15 hrs</i>	<i>9-18-53</i>
Verification by <i>C.H. Jyser</i> .....	Total time	<i>60 hrs</i>	Date <i>4/7/54</i>
Reviewed by <i>R.E. Elkins</i> .....	Time	<i>15 hrs</i>	Date <i>9-18-53</i>

*Addendum - AR Storni 20 hrs*



DIVISION OF CHARTS  
REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHY SURVEY

REGISTRY NO. H-7962

FIELD NO. PA-1153

Washington, Georgia Strait, Cherry Point to Sandy Point

Project No. Special Survey

Surveyed - January 1953

Scale 1:10,000

Soundings:

Control:

808 Fathometer

Sextant fixes on  
shore signals

Chief of Party - Joseph P. Lushene  
Surveyed by - Joseph P. Lushene, W.D. Barbee, J.W. Flint  
Protracted by - W.M. Martin  
Soundings plotted by - W.M. Martin  
Preliminary Verification by - D.R. Engle  
Verified and inked by - *GL. Tyson*  
Reviewed by - R.E. Elkins 9-20-53  
Inspected by - R.H. Carstens

1. Shoreline and Signals

The origin of the control and shoreline is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated.

The bottom is generally smooth and slopes to 90-ft. depths one mile offshore.

4. Junctions with Contemporary Surveys

This is a special survey joining no contemporary surveys. At the outer limits of the present survey, charted depths originating with H-2079 (1889-91) are in good agreement with present survey depths.

5. Comparison with Prior Surveys

H-405 (1853) 1:200,000  
H-708 (1858) 1:20,000  
H-709 (1858-59) 1:100,000  
H-2079 (1889-91) 1:20,000

A comparison between the prior and present surveys reveals no appreciable differences between prior and present depths.

The present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 6380 (Print date 7-13-53)  
Chart 6378 (Print date 5-5-52)

A. Hydrography

Charted depths originate principally with the prior survey H-2079 (1889-91). A few soundings and rocks along the shore are now charted from the present survey.

The present survey is adequate to supersede the charted information.

B. Aids to Navigation

There are no aids to navigation charted within the limits of the present survey.

7. Condition of Survey

- a. The sounding records are complete; the Descriptive Report covers all matters of importance.
- b. The smooth plotting was well done. The smooth sheet as received in this office was trimmed to a width of 22 inches. For convenience in removing from filing tube, it is desirable that smooth sheets be 36 inches wide or not less than the standard width of 31 inches, mentioned in paragraph 712 of the Hydrographic Manual.
- c. The preliminary verification of this survey was confined to crossing discrepancies and unnatural bottom configuration. Several lines covering the general area and the rocks along the shore have been verified and inked. Completion of the verification and inking is deferred until some future date, at which time the shoreline will be checked, and the inspection of the depth curves will be made. The addition of rock elevations originating with T-5583 (1949-52) is deferred, pending the review of that survey.

8. Compliance with Project Instructions


This survey complies with the Special Instructions.

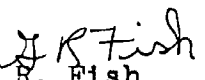
9. Additional Field Work

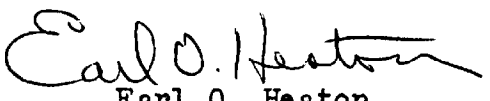
This is a good basic survey and no additional development is required.

Examined and Approved:

  
H. R. Edmonston  
Chief, Nautical Chart Branch

  
H. Arnold Karo  
Chief, Division of Charts

  
G. R. Fish  
Chief, Section of Hydrography

  
Earl O. Heaton  
Chief, Division of Coastal Surveys

Addendum to Review

H-7962 (1953)

Inked by - C. L. Tysor  
Review Addendum by - A. R. Stirni 3/13/56  
Inspected by - R. H. Carstens

The verification of this survey is now complete. A comparison was made with the reviewed manuscript of T-5583 (1949-52) and notes pertaining to rocks awash were added.

Junctions with Contemporary Surveys

This is a special survey joining no contemporary surveys.

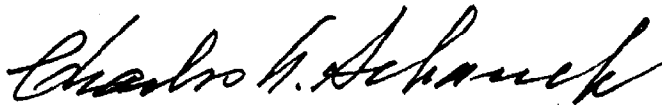
Comparison with Chart 6378 (print date 8/9/54)  
Chart 6380 (print date 7/25/55)

The charted hydrography originates with the present survey after preliminary verification and review. All charted information is in accord with the present survey with the exception of the large pier at lat.  $48^{\circ}49.60'$ , long.  $122^{\circ}42.80'$  which was built subsequent to the present survey and applied to Chart 6380 from Chart Letter 1005 (1954).

Condition of Survey

Completion of the verification reveals that the smooth plotting was carefully done.

Approved:



Chief, Chart Division

50'

45'

122° 40'

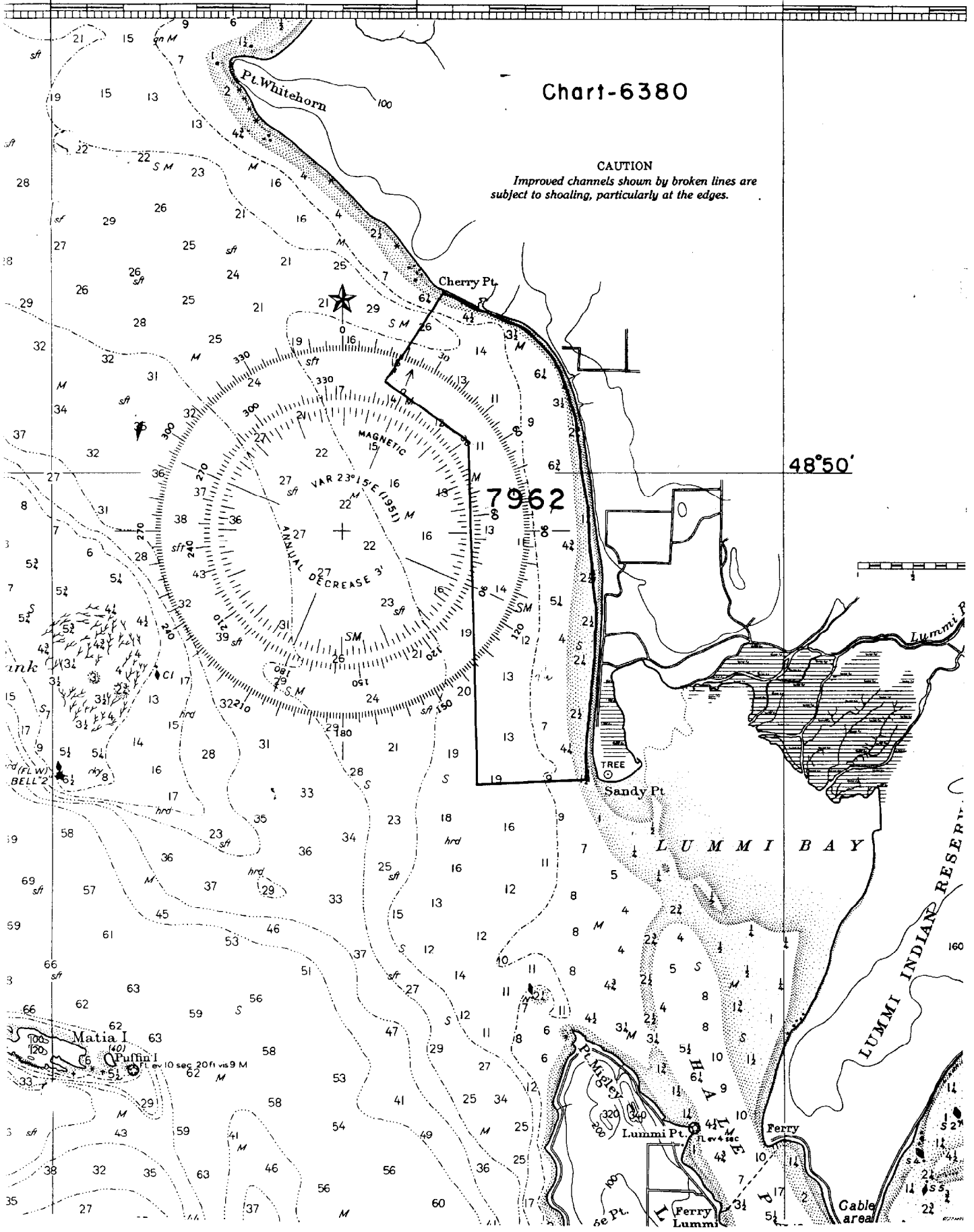
# Chart-6380

**CAUTION**  
Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

48° 50'

7962

MAGNETIC  
VAR 23° 15' E (1951)  
ANNUAL DECREASE 3'



TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

19 March 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 4  
volumes of sounding records for

HYDROGRAPHIC SHEET 7962

Locality Georgia Strait, Washington

Chief of Party: J. P. Lushene in 1953  
Plane of reference is mean lower low water, reading  
1.8 ft. on tide staff at Fishermans Cove  
12.3 ft. below B. M. 1 (1952)

• Height of mean high water above plane of reference is  
7.8 feet.

Condition of records satisfactory except as noted below:

*E. C. McKay*  
Section of Tides  
Chief, Division of Tides and Currents.

