5588

Diag. Cht. No. 6380.

Form 504

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. Ph-26(47) *Office No.* T-5588

LOCALITY

State Washington

General locality San Juan Island

Locality Stuart Island

1949-53

CHIEF OF PARTY

C.W.Clark, Chief of Party
H.A.Paton, Balto. Photo. Office

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DATE August, 1960

USCOMM-DC 5087

5588

DATA RECORD

T-5588

Project No. (II): Ph-26(47) Quadrangle Name (IV):

Field Office (II): Friday Harbor, Washington Chief of Party: Lt. Comdr. Charles W. Clark

Photogrammetric Office (III): Baltimore, Md. Officer-in-Charge: Hubert A. Paton

Instructions dated (II) (III): 31 August 1949
24 October 1949
Letter No. 73-rb, dated 17 March 1950

Copy filed in Division of Photogrammetry (IV)
Office Files

Method of Compilation (III): Air Photographic (Multiplex)

Manuscript Scale (III): 1:10,000 Stereoscopic Plotting Instrument Scale (III): 1:10,000

Scale Factor (III): 1.00

Date received in Washington Office (IV) OCT 19 1951 Date reported to Nautical Chart Branch (IV): OCT 29 1951

Applied to Chart No. Date: Date registered (IV): 3/19/59

Publication Scale (IV): 1:24,000 Publication date (IV):

Geographic Datum (III): N. A. 1927 Vertical Datum (III):

Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (5) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): GROOVE 2, 1942

Lat.: 48° 39' 30.532" Long.: 123: 10' 57.989" Adjusted

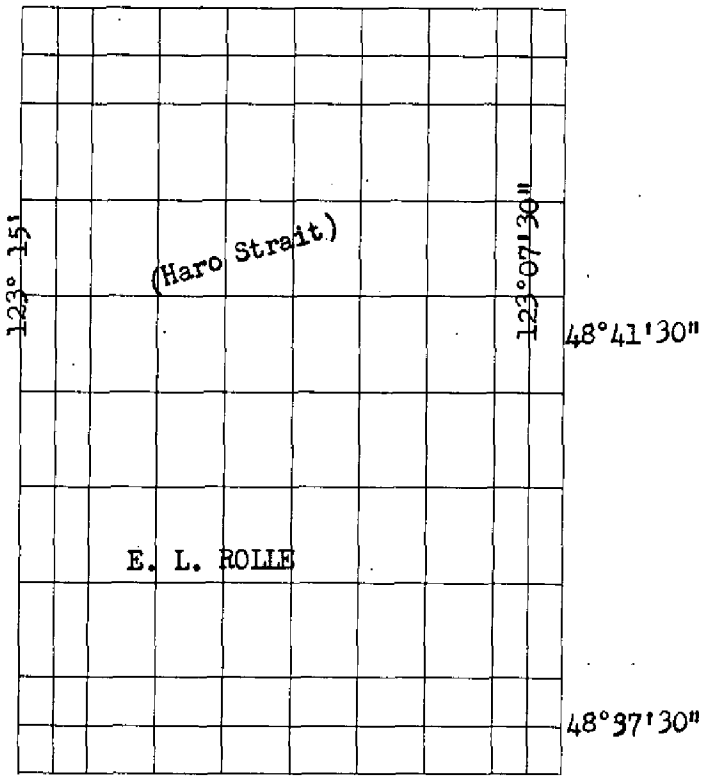
Plane Coordinates (IV): State: Washington Zone: North

Y= X=

Roman numerals indicate whether the item is to be entered by (II) Field Party, (III) Photogrammetric Office, or (IV) Washington Office.

When entering names of personnel on this record give the surname and initials, not initials only.

M-2618-12(4)



Areas contoured by various personnel
(Show name within area)
(II) (III)

DATA RECORD

Field Inspection by (II): J.H. Winniford — Date: 7 September 1950

Planetable contouring by (II): (Stereo instrument- Multiplex) — Date: —

Completion Surveys by (II): Ray H. Skelton II — Date: Sept-Oct, 1953

Mean High Water Location (III) (State date and method of location):
June 1949 (Same as date of Photography)

Projection and Grids ruled by (IV): T.L.J. — Date: Nov. 1950

Projection and Grids checked by (IV): — Date:

Control plotted by (III): A. K. Heywood — Date: Jan. 1951

Control checked by (III): W. L. Lineweaver — Date: Feb. 1951

Radial Plot or Stereoscopic Control extension by (III): E. L. Rolle — Date: Feb. 1951

Stereoscopic Instrument compilation (III): Planimetry E. L. Rolle — Date: Mar. 1951
Contours — Date:

Manuscript delineated by (III): B. Wilson (See Remarks) — Date: May 1951

Photogrammetric Office Review by (III): A. K. Heywood — Date: May 1951

Elevations on Manuscript checked by (II) (III): A. K. Heywood — Date: May 1951

M-2618-12(4)

Camera (kind or source) (III): USC&GS CAMERA TYPE "O" FOCAL LENGTH 152.37 mm.

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
49-0-1017 thru 1023	6-4-49	1018	1:24,000	5.3 above MLLW
49-0-1045 thru 1046	"	1033	"	4.8 above MLLW
49-0-1047 thru 1053	"	1039	"	5.2 above MLLW
49-0-1075 thru 1082	"	1103	"	5.0 above MLLW

Tide (III) Diurnal

Computed from Predicted Tide Tables *

Ratio of Ranges	Mean Range	~~Spring~~ Range
--	5.1	8.3
1.1	5.5	8.8
1.0	5.2	8.8

Reference Station: PORT TOWNSEND, WASHINGTON MHW 7.00' above MLLW datum.
Subordinate Station: TURN PT., STUART ISLAND
Subordinate Station: ROCHE HARBOR, SAN JUAN ISLAND
* Refer to elev. of tide planes for Friday Harbor San Juan Island, Wash.

Washington Office Review by (IV): K. N. Maki Date: 25 May 1955

Final Drafting by (IV): R. A. Carter Date: 5-14-59

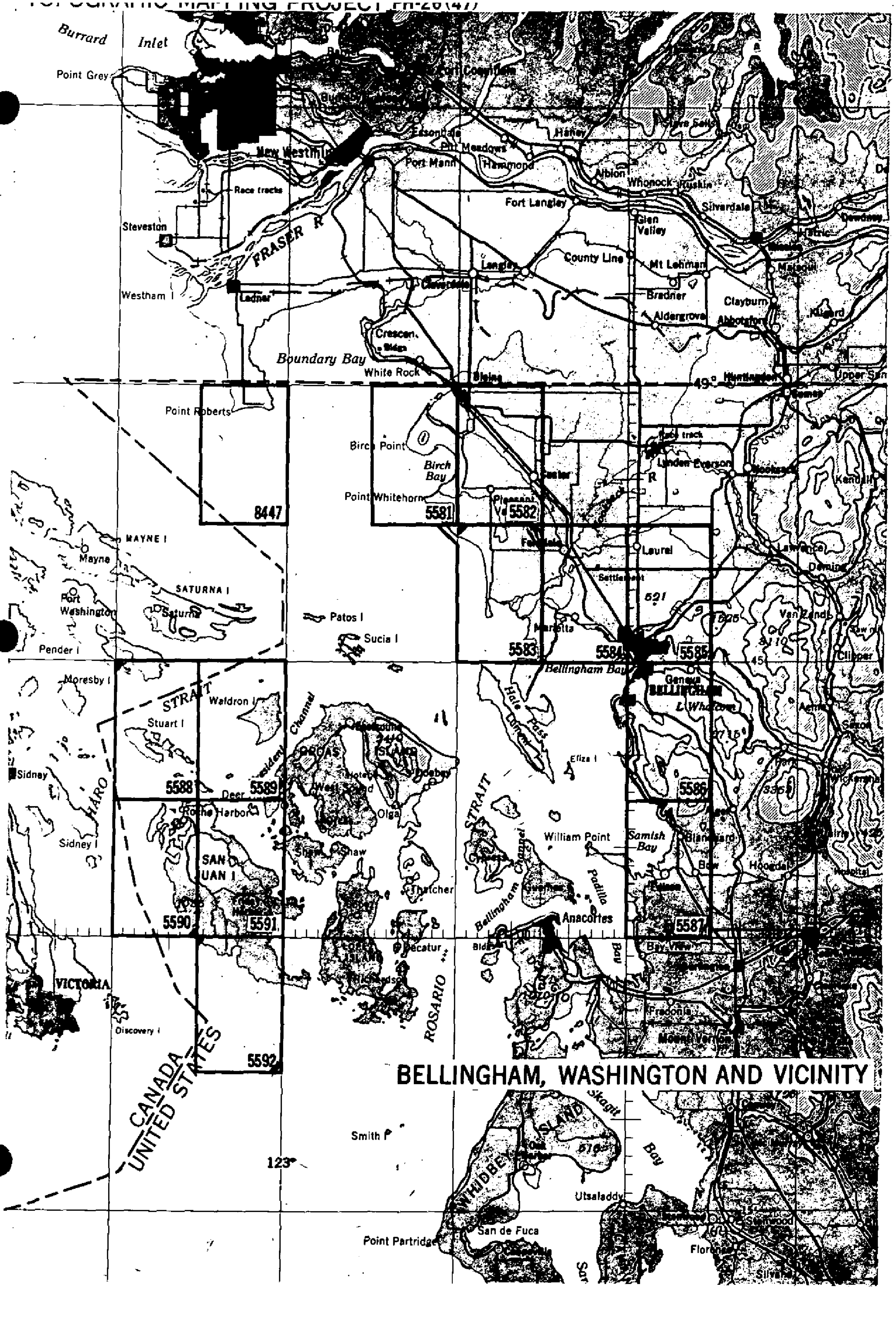
Drafting verified for reproduction by (IV): Date:

Proof Edit by (IV): Date:

Land Area (Sq. Statute Miles) (III): 5
Shoreline (More than 200 meters to opposite shore) (III): 23
Shoreline (Less than 200 meters to opposite shore) (III): none
Control Leveling - Miles (II): 4
Number of Triangulation Stations searched for (II): 20 Recovered: 19 Identified: 10
Number of BMs searched for (II): 0 Recovered: 0 Identified: 0
Number of Recoverable Photo Stations established (III): 2
Number of Temporary Photo Hydro Stations established (III): none

Remarks: Assembly and evaluation of data for public land lines by Donald M. Brant

TOPOGRAPHIC MAPPING PROJECT PH-26(47)



Summary to Accompany Descriptive Report T-5588

Topographic map T-5588 is one of 13 similar maps of Project Ph-26. It includes, in addition to a number of smaller islands and rocks, the large islands named as Stuart Island, Satellite Island, Johns Island and the west end of Spieden Island.

Project Ph-26 is a stereoscopic mapping project. Field work in advance of compilation included the establishment and recovery of horizontal and vertical control, field inspection of shoreline and interior features and the investigation of boundaries, land lines and geographic names. T-5588 is a multiplex compilation at scale 1:10,000 from 1949 single-lens photographs. The entire map was field-edited in 1953. The manuscript consists of two sheets, each 3-3/4' in latitude by 7-1/2' in longitude. All detail is included on the south-half. The north-half is water area within the United States and shows only the United States-Canada boundary line. With the addition of hydrographic data, the map is to be published by the Geological Survey at a scale of 1:24,000 as a standard topographic quadrangle.

The registered copies under T-5588 will include 2 one-half quadrangle cloth-mounted prints at scale 1:10,000 identified as T-5588 N/2 and T-5588 S/2, a cloth-mounted color print at scale 1:24,000 and the descriptive report.

FIELD INSPECTION REPORT
For
QUADRANGLES T-5588 to T-5592, Inclusive

2: Areal Description

The area embraced by these quadrangles covers the western portion of the San Juan Archipelago, the name given to the area north of the Straits of Juan De Fuca and east of Vancouver Island. This includes all of San Juan Island west of longitude 123° W, the portion of Shaw Island and of Orcas Island west of the above meridian, the small islands of the Wasp Group, Waldron Island, Spieden Island, Stuart Island, and the islands adjacent thereto. The larger and more prominent islands are mentioned above but there are many more which fall within the limits of these quadrangles.

San Juan Island is the largest and most developed of this group, having the largest town in the area, the county seat, Friday Harbor, and the principal business establishments. Roche Harbor, at the north end of San Juan Island, was a prosperous community years ago, having at that time steamer connections with the mainland and several industries, including a hotel which catered to the tourist trade of that era. Now, however, the town exists primarily as a subsidiary of the Roche Harbor Lime Co. whose quarry is just west of town. There are no other settlements on the island.

At the southeastern end of the island, near Cattle Point, the remains of the Old American Camp may be seen. The camp was established during the so called "Pig War" when a dispute arose between the United States and Great Britian regarding the administration of justice in the area. In 1854 both the U.S. and Great Britian sent troops to occupy the island and the rival camps were maintained until 1872 when the dispute was arbitrated by Wilhelm I of Germany. The English Camp lies at the south side of Mitchell Bay and some of the old buildings are still standing. The American Camp is marked by a monument and a flagpole upon the old earth works. Both are open to visitors.

The island is hilly, and except in the valleys is heavily wooded, and it is in these valleys that the majority of the agriculture and dwellings are located. The shoreline of the island is rugged, the west side being composed of rocky bluffs, while the east side slopes more gradually and is more heavily wooded.

The drainage pattern is confused and indeterminate, possibly due to glacial action. Several lakes exist on the island but they are not part of any general drainage system.

The portions of Shaw Island and of Orcas Island which fall within the limits of quadrangles T-5589 and T-5591 are rugged and heavily wooded. Here and there along the shore, small summer cabins have been built. There is no settlement in the area worthy of mention. Deer Harbor, a country store and post office, is largely a summer resort and has few permanent inhabitants. There is a small fish cannery on the west shore of Deer Harbor.

Waldron Island, the largest land area in quadrangle T-5589 is partly agricultural but the rocky ridge which runs from Point Disney to Point Hammond renders the eastern portion unfit for any large scale operation except logging. However, this ridge serves a purpose as this anticlinal structure lies but a few feet below ground level at the north and west portion of the island and acts as a table for drainage, making water easy to obtain in the area, a matter of no little importance.

Spieden and Stuart Islands and the small islands in the vicinity, are heavily wooded and have little agricultural area.

Cattle and sheep range throughout the islands but due to a lack of water, this industry is confined to small area.

The largest town in the area is Friday Harbor, midway on the eastern side of San Juan Island. This town is the county seat of San Juan County and is the center of trade in the island area. It has a permanent population of 528 people, although that figure increases during the summer months.

Fishing, cattle and sheep ranching, and dairy farming are the principal industries, In recent months, due to the scarcity of lumber, the stunted and twisted trees on the islands are being logged.

The primary method of travel to the mainland is by ferry from Friday Harbor to Anacortes. A freight boat runs from Bellingham to the islands and sometimes carries passengers. Seaplane flights to the mainland are available and are used in emergencies. Telephone communication is available between Shaw, Orcas, San Juan and the mainland.

Photograph coverage within the project limits was complete and adequate.

With regard to the interpretation of photographic detail, a densely wooded area of deciduous trees has a lighter grey and a more uniform tone than a correspondingly heavy growth of conifers. Many outcroppings of bedrock are visible on the photographs and representative areas have been indicated. Large rocks sometimes look like houses but where these have been detected, they have been deleted. Offshore from the high water line numerous rocks exist. Those which have been seen by this party have been classified but numerous others may be detected only by the dark area on

the photograph caused by the kelp which surrounds them. There is comparatively little sand in the area except along the north and west shores of Waldron Island. Most beaches are gravel and small rocks, which show white on the photographs.

The various details have been noted on the field photographs a sufficient number of times so that the office personnel should be able to interpret any unnoted feature.

3. Horizontal Control

(a). Supplemental control established by this party is as follows:

T-5588

SHELF, 1950 - Established in lieu of a topographic station near the northwest end of Spieden Island.

T-5589

Skipjack Island Light, 1950 - Established by traverse from SKIPJACK, 1894-1940 to locate fixed aid to navigation.

T-5591

LAUREL 2, 1940-1950 - Previously marked station located by this party.

SPRING, 1940-1950 - Previously marked station located by this party.

Cliff Island Light, 1950 - Established to locate fixed aid to navigation.

Wasp Passage Light, 1950 - Established to locate fixed aid to navigation.

Pole Pass Light, 1950 - Established to locate fixed aid to navigation.

Deer Harbor, Cannery Stack, 1950 - Established to locate landmark for chart.

T-5592

Additional observations were made from FORT, 1897 on no-check positions Pickett's Monument, 1943 and Flagpole near Pickett's Monument, 1943.

T-5592 (continued)

Positions were determined by third-order triangulation or traverse.

(b) No datum adjustments were made by the field party. Datum adjustments were made on several stations in a list attached to Bureau letter No. 63-rmm, dated 23 March 1950, a copy of which is included in this report.

The only position available to the field party on SKIPJACK, 1894-1940 is on the U.S. Standard datum. This station will have to be computed on the N.A. 1927 datum by the Washington office. Skipjack Island Light was located by distance and direction from station SKIPJACK. The position of the light was not computed.

(c) All control in the area was established by the Coast and Geodetic Survey.

(d) All control stations required by the project instructions and several others were recovered and identified.

(e) All known Coast and Geodetic Survey stations in the area were searched for.

The following Coast and Geodetic stations within the area were not recovered.

T-5588	T-5589	T-5590
TIPTOP, 1894	SANDY, 1940	EDWARDS, 1894
	WALD, 1940	HENRY, 1853
	WALDRON, 1894	OPEN, 1894
		LOW, 1894

T-5591	T-5592
CREST, 1894	GRAVE, 1897
EGG, 1894	MAGNETIC, 1897
LAUREL, 1894	Bomb Target, 1943
NARROW, 1894	House near Pickett's Monument, 1943
NICHE, 1894	
GOOSE, 1894	

4: Vertical Control

(a) Bench marks of third-order or higher accuracy are listed below:

(1) All were established by the Coast and Geodetic Survey.

(2) All are third-order accuracy.

(3) All elevations are based on the half-tide level of Friday Harbor Tidal Bench Mark No. 6. No datum adjustments were made.

(4) The only existing bench marks in the area were tidal bench marks. All were searched for.

List of bench marks established by this party on the above level line:

T.B.M. 1	T.B.M. 12	T 237	G 238
A 237	T.B.M. 13	U 237	T.B.M. 57
T.B.M. 4	J 237	V 237	T.B.M. 58
B 237	K 237	T.B.M. 35	H 238
T.B.M. 5	L 237	W 237	J 238
C 237	T.B.M. 17	X 237	K 238
B.M. 1 (S.J.C.)	M 237	T.B.M. 40	T.B.M. 63
T.B.M. 6	T.B.M. 18	Y 237	L 238
T.B.M. 7	N 237	Z 237	M 238
D 237	P 237	A 238	N 238
T.B.M. 8	T.B.M. 22	T.B.M. 46	T.B.M. 66
E 237	T.B.M. 25	B 238	P 238
F. 237	Q 237	C 238	Q 238
T.B.M. 10	R 237	D 238	T.B.M. 70
G 237	T.B.M. 28	E 238	R 238
T.B.M. 11	S 237	F 238	T.B.M. 71
H 237	T.B.M. 29	T.B.M. 56	

List of previously established Tidal Bench Marks Recovered:

Friday Harbor Tidal Bench Marks 1, 2, 3, 4, 5, 6, 7, 8, 9.

Argyle (North Bay) Tidal Bench Marks 1, 2, and 4.

Kanaka Bay Tidal Bench Marks 1, 2, 3, and 4.

(b) All topographic levels in the area were run by trigonometric methods using Kern Theodolite # P 36563 and by water levels. The 0 of the vertical circle of this instrument is at the nadir and this method of recording has been used rather than converting all angles to zenith. For this reason, any angle of 90 degrees or over is a plus angle while those less than 90 degrees are minus.

All lines on San Juan Island started and closed on U.S.C. & G.S. Bench Marks or T.B.M.'s of the third-order line or on fly line level points established and adjusted in accordance with the project instructions, with the exception of Point 9006 which started on a third-order T.B.M.

and was tied to the water elevation determined by a simultaneous observation at a tide staff.

Elevations were established within the squares which were blocked off in blue on the 1:24,000 contact prints, on points which were level for at least three meters in all directions. These points were numbered consecutively on the photographs, the points shown at the intersection of the cross lines in brown being the center of the level spot.

Elevations in T-5591 were computed and checked in Wye Level Book "D", then transferred to the photographs and verified. All points indicated as necessary by the Washington Office and identifiable points near established third-order bench marks are indexed in the front of the volume with the elevation and the photograph number of the picture bearing the data. Each point whose elevation is recorded in this volume has the suffix "D" indicating the volume in which the line is recorded, viz. 9101 D.

Elevations in T-5591 which were established on Shaw and Orcas Islands and the methods used will be discussed below.

Elevations established in T-5590 and T-5592 were established and indexed in the same manner as those in T-5591 except that the elevations and photograph numbers are recorded in Wye Leveling Book "C". The same method of transfer and verification on the photographs was used. Each point whose elevation is recorded in this volume has the suffix "C", viz. 9001 C and 9201 C.

Elevations in T-5591 and T-5589, which were established on Orcas and Shaw Islands were established from water levels determined by visual observations on the tide staff of the automatic tide gage installed by the USC&GS at the University of Washington Oceanographic Laboratories at Friday Harbor. Spirit levels were run from the nearest Tidal Bench Mark to the 13-foot mark on the tide staff and the half tide level of that point was determined. Fifteen minute observations were recorded in Form 277 for the dates that the water elevations were used.

A brief description of the methods used follows:

On 17 July at 1318, a water elevation was established in Wasp Passage, near Wasp Passage Light. From this point a temporary bench mark (T.B.M. 91-8) was set on the north side of Shaw Island. Using the same elevation, a line was projected north and west through the elevation points on the south portion of Orcas Island to a temporary bench mark near Deer Harbor. From this point (T.B.M. 91-6) topo level lines were run to the north and east and tied back to T.B.M. 91-6.

On 10 August at 1057 a water elevation was secured at the southwest side of Shaw Island, in Parks Bay, and the line was run north and east to

close on the previously established T.B.M. 91-8. This closed the line from Parks Bay water elevation to Wasp Passage water elevation, both of which were secured on different days and under different conditions.

On the same day, at 0949, a tie was made between T.B.M. 91-6, at Deer Harbor, and the water level. This provided a closed line between the Wasp Passage water elevation and the Deer Harbor water elevation, both of which were secured on different days and under different conditions. The loops from T.B.M. 91-6 to the different elevation points on Orcas Island were then adjusted and the elevations in T-5591 were recorded in Vol. "D". The elevations in T-5589, which were determined by these observations were recorded in Vol. "E".

To establish the elevations necessary on Waldron, Stuart, and Spieden Islands and the small elevations in the vicinity, a temporary tide staff was established at Limestone Point near △ Stoney 1940, at the eastern end of Spieden Channel.

The elevation of the staff was established by a closed line of Wye Levels from T.B.M. 51, 1950, a third-order leveling T.B.M., to Ref. Mk. 1 for △ station Stoney 1940. The notes for these levels are recorded on Pages 1-4 of Wye Leveling Book "E". A tie was made from the reference mark to the 14.1 foot mark on the tide staff. These notes are recorded on Page 5 of the same volume.

On 25 and 26 August elevations were established within the squares which were blocked off in blue on T-5588 by closed lines from and to the water level based on fifteen minute readings at the temporary tide staff mentioned above. These observations are recorded in Form 277. Elevations were established also at several points not required by the Washington Office and an attempt was made to allow for an elapsed time between the take off and the tie in to the water level, although in all cases the tie was made at a different point along the shore line.

All elevations established within the limits of T-5588 were indexed, computed and checked in Wye Leveling Book "E", transferred to the photographs and checked. Each point whose elevation is recorded in this volume has the suffix "E", viz. 8801 E.

Elevations in T-5589, with the exception of those previously discussed in connection with T-5591, were established from water elevations established by fifteen minute readings of the temporary tide staff near △ Stoney, 1940 and tied back to the water level after an elapsed time interval and at a different point.

On Waldron Island, the elevation of the water in Cowlitz Bay was used to establish a T.B.M. at the northwest corner of a substantial dock. Several hours later, another corner of the dock was tied to the water level. The elevations on the island are based on a loop run from T.B.M. to T.B.M.

All elevations established within the limits of T-5589 were indexed, computed and checked in Wye Leveling Book "E", transferred to the photographs and checked. Each point whose elevation is recorded in this volume has the suffix "E", viz. 8901 E.

Due to the rugged character of most of the area, the slide rule was inaccurate in large angles, and in all cases where the angle of inclination or depression was more than 4 degrees, the following formula, extracted from "U.S. Dept. of Interior Stadia Tables" by G.S. Anderson was used to compute the difference in elevation.

$$\text{Diff. in Elevation} = \frac{\text{Observed distance} \times \sin 2 \text{ vert. angle}}{2}$$

In addition, on the line from T.B.M. 91-7 to elevation point 8902 E an additional correction for large angle shots is noted in Volume E page 12, but was not applied to the elevation.

Where trigonometric level lines were not used as a basis for further leveling and where the error was less than two feet, as specified in the project instructions, the error was not adjusted.

In addition to the points required by the Washington Office, and marked on the contact prints in blue, elevations were established on identifiable areas adjacent to third-order bench marks and also on other points which were easily available to the leveling party.

The first and last designated level points for each sheet are as follows:

T-5588	8801 E to 8807 E incl.
T-5589	8901 E to 8907 E incl.
T-5590	9001 C to 9023 C incl.
T-5591	9101 D to 9156 D incl. (9136 not used)
T-5592	9201 C to 9215 C incl.

5: Contours and Drainage

Contouring is inapplicable.

Drainage on most of the islands is subsurface due to the sandy character of the soil and the underlying rock strata. Surface drainage which is apparent is intermittent, flowing in the wet winter months and disappearing entirely during the dry summer period.

On San Juan Island, there are several lakes, man made or maintained, apparently fed by springs. There are several small streams which follow a dendritic pattern but for the most part, water in the area seems to

collect in sink holes or basins from which there is no apparent outlet. During the winter months these basins become ponds or marshy areas, but in the summer when there is no rain, they dry out and are used for pasture or are cultivated. The entire area shows the confused drainage pattern evident in glaciated areas.

All drainage, either perennial or intermittent, was investigated in the field and verified in the office under the stereoscope. Small ditches in fields, where drainage was of minor importance, were deleted or omitted.

6: Woodland Cover

Woodland cover was classified in accordance with Photogrammetry Instruction 21, dated 8/18/48 and with page 65 of Topographic Manual Part II Chapters V and VII. On islands lying with the axis east and west, or nearly so, woodland cover on the south slopes is sparce. Rocky outcrops interrupt the regular pattern of the wooded areas sufficiently to enable the multiplex operator to obtain a ground elevation at various points.

7: Shoreline and Alongshore Features

The shoreline was inspected in accordance with "Supplemental Instructions - Shoreline Inspection" dated 18 March 1944 by walking the shoreline and from a boat kept close to shore.

In this island area, except for occasional gravel or sand beaches, the high water line falls along the base of rocky bluffs from 5 to 150 feet in height. In some areas, underwater rock ledges project beyond the high water line and are visible on the photographs. Except in False Bay and a few other areas, the low water line was not apparent on the photographs and was not delineated. Where extreme low tides exposed mud flats, these were noted on the photographs.

At the extreme southeastern point of San Juan Island, there is a large area of low and treeless shoreline gradually giving way to a shoreline composed of rocky outcrops, weathered and cut by wave action into an irregular area of points and coves, which rise from 5 to 30 feet above the high water line. A rocky shelf extends somewhat beyond and below the high water line. At False Bay, a rounded indentation, the high water line follows clay bluffs over an underlying bedrock formation. The bay itself is a shallow sand bottomed area which bares at low water. Further north the shoreline changes again into the above mentioned rocky outcroppings of irregular points and coves and this type of shoreline continues north to Mosquito Pass. Here the indentations, Mitchell Bay and Westcott Bay have less steeply sloping sides but the underlying rock is still apparent. On Henry Island, the eastern portion is a gradual slope from the high water line, with some rocks and shoals in Mosquito Pass. The western side of the island is a steep and rocky bluff, rising to heights in places and dropping abruptly into the water.

The north side of San Juan Island borders Spieden Channel and is comparatively low, with rock bluffs vaying in height from 5 to 35 feet. In Roche Harbor, the shoreline is low, similar to the balance of the north end, always with a projecting rock shelf. Continuing to the east and south the shoreline seems to flatten out a bit and become less rugged, the bluffs ranging from 5 to 15 feet. This same type shoreline continues down the east side to the south portion of Griffin Bay. Here the shoreline flattens out and the high water line follows a sandy beach into Cattle Point. There are several outcroppings of rock in this area.

On the islands north of San Juan, that is Stuart, Johns, Spieden and Flattop, the shoreline is generally precipitous along the north side of the island with 5 to 20 foot bluffs along the southern exposure.

Waldron Island has precipitous bluffs along the extreme south point of the island, on both the east and west sides of Point Disney. The bluffs run north for about one mile. On the east side, the shoreline follows the general pattern, rocky and irregular, with bluffs from 5 to 30 feet, to Point Hammond. From Point Hammond west the shoreline changes into sand beach backed by clay bluffs to the rocky projection known as Fishery Point. From this point west the sand and clay banks are evident and at Sandy Point the shoreline turns to the east again without changing its character.

Skipjack and Bare Islands conform to the general island type, that of precipitous bluffs on the north side and less steeply sloping banks on the south side.

The west side of Orcas and of Shaw Island are similar in character to the east side of San Juan Island in that the bluffs are from 5 to 15 feet in height with vegetation almost to the high water line.

8: Offshore Features

The rocky character of the bottom and the extreme range of tide makes piling almost a rarity in this area. In the bays where sediment has accumulated, as in Friday Harbor and Argyle and False Bay, there are some docks and piers but on the exposed coast there are no man made features. The possible exception to this is in the slight depression in the shoreline on Orcas Island, almost east of the south tip of Waldron Island, where a bulkhead and pier have been constructed offshore from a large summer home.

Rocks, both submerged and visible, abound in the area adjacent to the shoreline. The height above the stage of tide and the date and time of observation are noted on the field photographs.

9: Landmarks and Aids to Navigation

Four new landmarks for charts were recommended. Two were deleted. One landmark, Deer Harbor Cannery Stack, was located by theodolite cuts.

Four fixed aids to navigation were found within the limits of these sheets, in addition to those previously located. Wasp Passage Light, Cliff Island Light, and Pole Pass Light were located by theodolite cuts. One, Skipjack Island Light was located by traverse from triangulation from station SKIPJACK, 1894-1940.

See side heading 3 of this report.

10: Boundary Monuments and Lines

See "Special Report - Boundaries - Project Ph-26(47)" to be submitted later.

The boundaries which fall within the limits of these quadrangles are the boundaries of the town of Friday Harbor, and the township boundaries of San Juan Townships No's. 1, 2, and 3, Stuart Island Township, portions of Waldron Township, East Sound Township, West Sound Township, Deer Harbor Township, and Shaw Township.

It was found impossible to obtain a legal description of the town boundary of Friday Harbor. The limits, as shown on Field Photograph 1028, were drawn by the Town Attorney, after a consultation with the Town Clerk, and an examination of the town records. (See §56, Desc. Report T-5591)

The legal description of the township boundaries of San Juan County was not available at the county courthouse Assessors Office. All persons concerned are aware of the fact that these divisions exist, but no one knows how they were fixed. The commissioners are devided between San Juan, Spieden, Stuart and the small islands adjacent, Orcas, Shaw and Waldron Islands and the small islands adjacent, and Lopez, Decatur, Cypress, Blakeley, etc. making 3 commissioners in all.
(Township boundaries not required for San Juan Co.) SHR

40 section corners, quarter corners, sixteenth corners or meander corners were recovered. 39 were identified on the contact prints and one was located by traverse from triangulation station in the vicinity. Of the 40 corners recovered, only two were marked as noted in the examination of the General Land Office Surveys. The remaining 38 were marked by pipes or fence line intersections and were classed as "accepted corners".

The descriptions of the original corners were obtained from the San Juan County Engineers Office, from a copy of the original General Land Office Survey of 1873.

For more complete information on land lines see "Special Report - Landlines - Project Ph-26(47)" to be submitted later.

11: Other Control

Recoverable Topographic Stations were established to provide a spacing of control stations of about 2 miles along the shoreline, and in bays and coves, when the existing control would not provide a fix for the hydrographic party.

Two Recoverable Topographic Stations were established for use as landmarks. Two marked General Land Office Corners were described as Recoverable Topographic Stations.

Recoverable Topographic Stations not listed on Form 567 were established as follows:

T-5588	T-5589	T-5590	
REID, 1950	NASH, 1950	BARK, 1950	ROCK, 1950
BARN, 1950	DOCK, 1950	MIKE, 1950	POLE, 1950
		BELL, 1950	TIDE, 1950
		GOAT, 1950	PINE, 1950
		CHAN, 1950	WEST, 1950

T-5591	T-5592
* WASH, 1950 (M/C 5/6, T35N R2W)	BEST, 1950
* FLUB, 1950 (1/4 cor. 20/29 T35N R2W)	FISH, 1950
	LASS, 1950 (Tidal B.M. 1 Kanaka Bay, 1926)

* Not positioned: east of project area. EHR

No Photo Hydro stations were established.

12: Other Interior Features

All roads were classified in accordance with instructions contained in Part II Chapters V and VII of the Topographic Manual.

Buildings to be shown on the map manuscript have been classified in accordance with instructions contained in Photogrammetry Instructions 29 dated 10-1-48 and in the "Topographic Manual Part II Chapters V and VII". All buildings of minor importance have been deleted with a green X.

All public buildings have been classified and named.

There are no bridges over navigable waters in the area.

There are two submerged cables in the area. The shore ends of the cable connecting San Juan and Shaw Island are shown on the field photographs. The San Juan Island end of a submerged cable crossing between that island and Vancouver Island is shown.

A Civil Aeronautics Administration installation (fan Marker) exists in the northeastern portion of San Juan Island. It was noted on the field photographs.

13: Geographic Names

See "Special Report on Geographic Names, Project Ph-26(47)" to be submitted later.

14: Special Reports and Supplemental Data:

Special Reports will be submitted later as follows:

(1) Special Report - Boundaries - Project Ph-26(47)
(2) Special Report - Land Lines - Project Ph-26(47)
Combined as one report. Div. Phty files.

(3) Special Report - Geographic Names - Project Ph-26(47)
Geogr. Names Sect. files, Div. Charts

(4) Special Report - Coast Pilot - Project Ph-26(47)
Coast Pilot Sect. files, Div. Charts

Three copies of Form 567, Non-floating Aids or Landmarks for Charts, were forwarded to the Washington Office 26 October 1950 on Transmitting Letter No. 36, in accordance with Subject 713 of the Topographic Manual. One copy each of three sheets of Form 567 are forwarded with this report.

Original copies of geodetic records - record books, recovery notes, descriptions, abstracts and lists of directions, triangle computations, geographic position computations, etc. were forwarded to the Washington Office 27 October 1950 on Transmitting Letter No. 37. Duplicate copies of descriptions and lists of geographic positions are forwarded to the Washington Office with this report.

Photogrammetric records are forwarded with this report.

Other supplemental data is submitted as follows:

Copy of letter from Director No. 63-rmm, dated 23 March 1950, and attached list of geographic positions are attached to this report.

1 print each of county maps of San Juan, Orcas and Shaw Islands.

1 print Progress Sketch, third-order leveling San Juan Island.

Approved:
Charles W. Clark
Charles W. Clark
Chief of Party

Respectfully submitted:
John C. Lajoye
John C. Lajoye
Cartographer

COPY

63-rmm

March 23, 1950

To: Lieut. Comdr. Charles W. Clark
U.S. Coast and Geodetic Survey
Swan Island Postal Station
Portland 18, Oregon

Subject: Geographic Positions of Triangulation Stations

Lithoprint copies of geographic positions of stations in Padilla Bay (described in book 387) requested in your letter of March 10, 1950 are enclosed.

Only one observation each was made to SPRING, 1940 and LAUREL 2, 1940, San Juan Islands (book 743) so no positions are available for these stations.

SKIPJACK 1894 is near station Skippy, 1940. This old station will not be computed unless required as it would be necessary to compute several other old stations also.

Positions of the 1894 and 1897 stations described in books 684 and 743 which are requested were obtained by datum differences and are enclosed.

/S/ K. T. Adams
Acting Director

Enclosures

WASHINGTON SOUND

STATION	POSITION		
	°	'	"
Bay 1894	48°	37'	19".93
	122	58	57.46
Bush	48	37	38.24
	122	57	24.06
Double	48	36	32.92
	122	58	14.22
Victim	48	36	50.71
	122	58	23.88
Daisy	48	38	18.37
	122	59	05.91
Root	48	37	03.07
	122	57	17.43
Golden	48	36	28.89
	122	57	12.93
Split	48	37	46.23
	122	58	04.19
Finlayson 1897	48	27	19.51
	122	58	23.63
Grave	48	27	43.93
	122	59	10.00
Fort	48	27	47.90
	123	00	51.87
Magnetic	48	27	47.40
	122	58	08.61
Gnarl 1887	48	41	24.38
	122	30	21.70

Determined by Datum Differences

PHOTOGRAMMETRIC PLOT REPORT

21. AREA COVERED

T-5588, T-5589, T-5590, T-5591 and T-5592.

22. METHOD

Horizontal bridging was required for these quadrangles. The sketch of control, attached, shows the limits of those strips bridged. Since most of the horizontal control was near the shoreline, the cross-flight, 49-0-1067-74, was used to locate pass-points for strips in the interior. Practically no bridging was required in quadrangles T-5588 and T-5589 as most of the models could be set individually.

Most of the bridging was done on the 1:10,000 manuscripts. Several work sheets were used to facilitate bridging between T-5590 and T-5591. Horizontal pass-points were established so that models could be set individually for detailing. Pass points were transferred from work sheets to manuscripts by matching projections.

23. ADEQUACY OF CONTROL

Horizontal control complied with project instructions and was adequate. Furthermore, it might appear from the sketch of control that the number of identified points was excessive. Nevertheless, good use was made of them as about one-fourth of the points either could not be seen or could not be identified in the models with greater accuracy than 0.5 mm. These were:

BAMBOO, 1894
BOLDA, 1940
DAVE, 1942
GROOVE 2, 1942
LOOK, 1940
LOW PT, 1897
PENIN, 1940
ROCHE, 1942
SAN JUAN, 1867
SENTINEL 2, 1942
TOM, 1897
TWIST, 1894

Five (5) horizontal stations were not held during the multiplex bridging. BAMBOO, 1894, GROOVE 2, 1942, and TWIST, 1894 could not be seen in the models because of washed out images. FAIRVIEW, 1894 and YELLOW 2, 1940 would not hold with other control in strip 1098-1101. A strip to the east 1116-1119 was set which proved the adjoining strip. The sub pt for FAIRVIEW plotted 1.0 mm east and that for YELLOW 2, 0.8 mm northeast. No apparent error could be found in the work pertaining to FAIRVIEW. With regard to the sub pt for YELLOW 2, examination of the photographs revealed the likelihood that the sub pt was missidentified. (Planimetry adjacent to ΔS checked satisfactorily during the field edit.) CDR

24. SUPPLEMENTAL DATA

None

25. PHOTOGRAPHY

With one exception the coverage and overlap of the photography were adequate. The coverage of the southwest portion of Henry Island was poor. One more photograph should have been taken in the flight ending with 49-0-1016. To complete the island, topography had to be taken from a model to the east, 1044-1045. Coverage was at the extreme edge of the photographs.

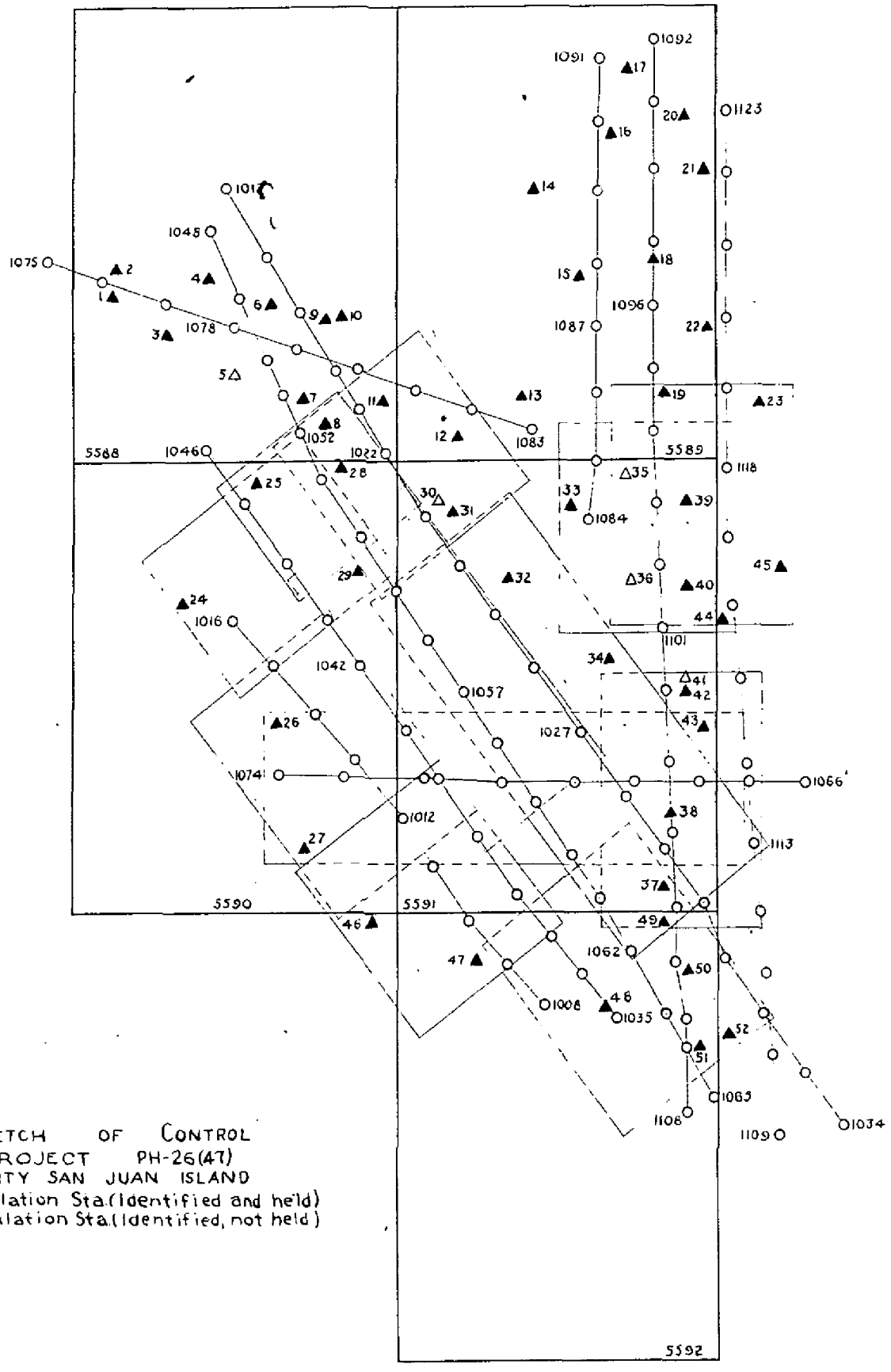
The quality of the diapositives was from poor to good. Examination of both the photographic prints and the diapositives indicates that the fault may lie in the photography itself. The photographs have one corner more or less washed out.

26. ACCURACY

We believe that the National Standards of Map Accuracy and the Coast and Geodetic Survey standards, where applicable, have been met.

Respectfully submitted
25 September 1951

Henry P. Eichert
Supervisory Cartographer



SKETCH OF CONTROL
PROJECT PH-26(47)
VICINITY SAN JUAN ISLAND
▲ Triangulation Sta.(Identified and held)
△ Triangulation Sta.(Identified, not held)

Ph-26 (47)

HORIZONTAL CONTROL FOR BRIDGING

(Quads. 5588 thru 5592)

1. STUART WEST 2, 1942
2. TURN POINT L.H., 1942
3. PITCH, 1894
4. GRASSY, 1894
5. GROOVE 2, 1942
6. STUMP, 1894
7. VINE, 1894
8. SENTINEL 2, 1942
9. JOHN, 1894
10. JOE, 1942
11. CACTUS 2, 1942
12. SPIEDEN, 1894
13. WEED, 1894
14. SANDY R.M. 1, 1940
15. DISNEY, 1940
16. DRY, 1894
17. SKIPPY, 1940
18. SMALL, 1894
19. SPIKE, 1894
20. HAMMOND 3, 1940
21. ROUND, 1894
22. LIME, 1940
23. DAISY, 1894
24. KELLETT BLUFF LIGHT, 1942
25. ROCHE, 1942
26. ANDREWS BAY R.M., 1909
27. LIME KILN L.H., 1942
28. DAVE, 1942
29. WESTCOTT, 1942
30. TWIST, 1894
31. PENIN, 1940
32. LIFE, 1940
33. JONES, 1894
34. LOOK, 1940
35. FAIRVIEW, 1894
36. YELLOW 2, 1940
37. ARGYLE, 1897
38. FRIDAY HARBOR MUNICIPAL STANDPIPE, 1940
39. WEDGE, 1894
40. NECK, 1894
41. BAMBOO, 1894
42. CAUTION, 1940
43. FRIDAY, 1894
44. EGG 2, 1940
45. WASP PASSAGE LIGHT, 1950
46. EDWARDS 2, 1942
47. PILE POINT R.M., 1909
48. SAN JUAN, 1867
49. TOM, 1897
50. LOW POINT, 1897
51. FORT, 1897
52. BOLDA, 1940

MAP T- 5588 PROJECT NO. PH-26(47) SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD	(BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD	(BACK)
	G.P.	U.S.	48 40 28.514	880.8	(972.6)	- 30.0	880.8	1002.6		
ANT, 1894 ✓	P.28	Stand.	123 09 44.370	907.8	(319.8)	-29.3	878.5	349.1		
DANDY, 1894	G-5503 P.631	N.A. 1927	48 41 24.196	747.4	(1106.0)					
			123 12 51.529	1053.9	(173.2)					
FLAT 2, 1942 ✓	G-5649 Pg.703	"	48 39 49.988	1544.1	(309.3)					
			123 10 09.234	188.9	(1038.8)					
GRASSY, 1894 ✓	G-5503 p. 631	"	48 41 10.969	338.8	(1514.6)					
			123 12 07.562	154.7	(1072.6)					
GROOVE 2, 1942 ✓	G-5649 P 703	"	48 39 30.532	943.1	(910.3)					
			123 10 57.989	1186.7	(41.2)					
JOE, 1942 ✓	"	"	48 40 05.427	168.6	(1685.8)					
			123 08 49.076	1004.1	(223.5)					
JOHN, 1894 ✓	"	"	48 39 58.812	1816.7	(36.7)					
			123 09 26.849	549.4	(678.3)					
PITCH, 1894 ✓	G-5503 P. 631	"	48 40 14.034	433.5	(1419.9)					
			123 13 03.247	66.4	(1161.2)					
PUDDING, 1894 ✓	G-5503 P. 632	"	48 41 08.166	252.2	(1601.2)					
			123 11 21.258	434.8	(792.4)					
RIPPLE, 1894 ✓	G-5649 P.704	"	48 39 26.856	829.6	(1023.8)					
			123 07 44.613	913.0	(314.9)					
SENTINEL 2, 1942 ✓	G-5649 P.703	"	48 38 21.136	652.9	(1200.5)					
			123 09 04.313	88.3	(1140.1)					
SHEEP 2, 1942 ✓	G-5649 P. 702	"	48 38 15.573	481.0	(1372.4)					
			123 08 02.001	41.0	(1187.4)					

1 FT.=.3048006 METER

COMPUTED BY: H.P.Eichert DATE 11/50

CHECKED BY: A.K.Heywood DATE 11/50

M-2388-12

MAP T- 5588 PROJECT NO. PH-26(47) SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE / LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)
STUART WEST 2, 1942 ✓	G-5503 P.631	N.A. 1927	48 41 01.764	54.5 (1798.9)			
			123 14 09.359	191.4 (1035.9)			
STUMP, 1894 ✓	G-5503 P.632	"	48 40 50.581	1562.4 (291.0)			
			123 10 26.488	541.8 (685.5)			
TIPTOP 2, 1942 ✓	G-5503 P.626	"	48 40 22.695	701.0 (1152.4)			
			123 12 36.995	756.9 (470.7)			
TURN POINT L.H. 1942 ✓	G-5503 P.631	"	48 41 20.274	626.3 (1227.1)			
			123 14 09.942	203.3 (1023.8)			
* TURN POINT R.M. 1909 ✓	"	"	48 41 20.328	627.9 (1225.5.)			
			123 14 09.970	203.9 (1023.3)			
VINE, 1894 ✓	G-5649 P.702	"	48 38 49.237	1520.9 (332.5)			
			123. 09 39.274	803.9 (424.3)			
SHELF, 1950 ✓	Field Comp	"	48 38 57.381	1772.5 (80.9)			
			123 09 20.550	420.6 (807.5)			

✓

* Not plotted on manuscript (1.5m from Station TURN PT. L.H., 1942)

Page 26

1 FT. = .3048006 METER

COMPUTED BY: H.P.Eichert DATE 11/50 CHECKED BY: A.K.Heywood DATE 11/50

M-2388-12

COMPILATION REPORT

T-5588

31. DELINEATION

All topography except shoreline was compiled by the multiplex instrument. Detail points for the location of the shoreline were established by the multiplex operator during compilation. These detail points are carefully chosen along the shoreline during the orientation of each model. Where possible, only well defined images and those with little elevation are used. The selected image is pricked on the manuscript concurrently with its identification on the ratio print. This method enables the compiler to place the ratio print under the manuscript, match the corresponding detail points and delineate the MHWL.

All photo topo points, identified in the field, were located by multiplex.

All elevations read with the multiplex instrument have been shown on the manuscript to the nearest ~~five (5) feet.~~ foot.

32. CONTROL

Refer to Field Inspection Report, item 3 and Photogrammetric Plot Report, item 23.

33. SUPPLEMENTAL DATA

Land Plats

1 - Township No. 37 North, Range No. 4 West, Willamette Meridian.

34. CONTOURS AND DRAINAGE Refer item 53, Field Edit Report

The area is densely wooded rendering contouring difficult. Extensive use was made of the stereoscope and contact prints to enable a better interpretation of detail.

Since the quadrangle is comprised of small islands with little land area, parallax solutions of multiplex model were difficult.

The diapositives used in this quadrangle were of poor quality. This seemed to be due to the original film being "fuzzy" and not the diapositive printing since the contact prints contained the same lack of definition.

35. SHORELINE AND ALONGSHORE DETAILS.

Shoreline inspection was adequate. In areas where relief displacement of trees and bluffs obscured the MHWL the shoreline may have been better inspected on a different photograph; for example, where displacement was away from the coast. In these areas the shoreline may have minor indentures

which could not be delineated. For example, the shoreline inspected on ratio print No. 1077 covering the most northern coast of Stuart Island might have been delineated with greater accuracy had the inspection been completed on ratio print No. 1018 and part on No. 1076.

Similar situations exist on the south side of Spieden Island . It would have been better had the inspection been shown on No. 1021 instead of No. 1080, and on the north side of this island had the inspection been completed on No. 1020 or No. 1080 instead of No. 1021. Shoreline redelineated by field edit where necessary.

All ledge and low water lines are from office interpretation.

36. OFFSHORE DETAILS

Refer to paragraph 49.

37. LANDMARKS AND AIDS

Data complete.

38. CONTROL FOR FUTURE SURVEYS

Two 524 forms have been submitted with this report. The positions of both topographic stations were determined by multiplex. Filed in Div. of Photogr. general files.

A list of recoverable topographic stations has been prepared and included in paragraph 49.

39. JUNCTIONS

Junctions were made to the east with Survey T-5589 and to the south with Survey T-5590. To the north and west is Haro Strait.

40. HORIZONTAL AND VERTICAL ACCURACY

See Photogrammetric Plot Report, item 23.

41. BOUNDARIES

Land Lines

See Special Report, Boundaries, Project Ph-26(47); Land Lines, Project Ph-26(47); and item 10 of field inspection report.

41. BOUNDARIES

Land Lines (continued)

For details of land line delineation refer to compilation report T-5584, item 41. The graphically enlarged copy of the land plats of townships listed in item 33 is submitted with this report.

46. COMPARISON WITH EXISTING MAPS

No USGS quadrangle of this area was available for comparison.

47. COMPARISON WITH NAUTICAL CHARTS

Charts 6380, scale 1:80,000, published March 1947 (8th edition)(3-3-47), and chart 6381 scale 1:10,000, published December 1943 (3rd edition)(7-11-45). The comparison was generally favorable in most cases with the following exceptions:

1. The elevations of tops from the charts did not agree with those on the manuscript, the maximum difference being 111'. The spot elevations on the manuscript have been checked and felt to be more accurate than those on the chart.

2. Chart 6381 shows almost continual ledge around Spieden and Sentinel Islands. Since the photographs used in compilation were at high water no extensive offshore features could be shown.

3. Danger Shoal, southwest of Spieden Island, is indistinct on the high water compilation photographs and its delineation and position are noted to be verified by the hydrographer.

Several notations to the hydrographer have been made on the manuscript where it is felt a check or additional information was needed.

Items to be applied immediately: None

Items to be carried forward: None

Respectfully submitted

A. K. Heywood

Albert K. Heywood
Cartographer (Photo.)

Approved and forwarded

Hubert A. Paton

Hubert A. Paton
Comdr., USC&GS
Officer in Charge

48. GEOGRAPHIC NAME LIST

Battleship Island

Cactus Islands
Canada
Cemetery Island
Center Reef
Charles Point

Danger Shoal

Gossip Island
Gull Reef

Haro Strait

Johns Island
Johns Pass

New Channel

Prevost
Prevost Harbor

Reid Harbor
Ripple Island

Satellite Island
Sentinel Island
Sentinel Rock
Spieden Bluff
Spieden Channel
Spieden Island
Stuart Island

Tiptop Hill
Turn Point

United States

San Juan Islands (for title)

San Juan County

Stuart Township

T-5588S

Names underlined in red are approved, based on Project names report. (subject to Field Edit).

12-18-51
L. Heck

Re-checked
5-12-55
L.H

49. NOTES FOR THE HYDROGRAPHER

The following is a list of recoverable topographic stations within this quadrangle:

REID, 1950
GABLE(BARN) (1950)

Special attention is called to several notations made on the manuscript.

It is believed that the offshore detail as compiled in the manuscript are not complete enough for the manuscript to supersede the nautical chart. Offshore detail supplemented by field edit. The manuscript supersedes the nautical chart.

Form T-2

50- PHOTOGRAMMETRIC OFFICE REVIEW

T-5588

1. Projection and grids 2. Title 3. Manuscript numbers 4. Manuscript size

CONTROL STATIONS

5. Horizontal control stations of third-order or higher accuracy 6. Recoverable horizontal stations of less than third-order accuracy (topographic stations) 7. ~~Photo hydro stations~~ 8. Bench marks

~~9. Plotting of sextant fixes~~ 10. Photogrammetric plot report 11. Detail points

ALONGSHORE AREAS

(Nautical Chart Data)

12. Shoreline 13. Low-water line 14. Rocks, shoals, etc. ~~15. Bridges~~ 16. Aids to navigation ~~17. Landmarks~~ 18. Other alongshore physical features 19. Other alongshore cultural features

PHYSICAL FEATURES

20. Water features 21. Natural ground cover ~~22. Planetable contours~~ 23. Stereoscopic instrument contours 24. Contours in general 25. Spot elevations 26. Other physical features

CULTURAL FEATURES

27. Roads 28. Buildings ~~29. Railroads~~ 30. Other cultural features

BOUNDARIES

31. Boundary lines 32. Public land lines

MISCELLANEOUS

33. Geographic names 34. Junctions 35. Legibility of the manuscript 36. Discrepancy overlay 37. Descriptive Report 38. Field inspection photographs 39. Forms

40. _____ Reviewer _____ Supervisor, Review Section or Unit

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT

42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

Catherine A Lyons _____ Compiler _____ Supervisor

43. Remarks:

M-2623-12

FIELD EDIT REPORT

Map Manuscript T-5588

Project Ph-26 (47)

51. Methods

No new or unusual methods were used in the field edit of this sheet. Access to the area is by boat only, and the truck was not used in the field work itself. It was necessary to make the inspection from a small boat or by walking and comparing the mapped detail with the ground.

A legend describing the symbols and colored inks used is shown on the Field Edit Sheet No. 1.

Field edit corrections are shown on Field Edit Sheets numbered 1 to 3 inclusive and on eight photographs numbered 1048, 1049 and 1076 - 1081 inclusive. All corrections are noted on the Field Edit Sheets with cross references to the appropriate photograph.

The field edit was done by Mr. Charles H. Bishop. This has been Mr. Bishop's first field edit assignment and the work has been closely supervised by Mr. Ray.H. Skelton II. After the first week Mr. Skelton spent an average of a day a week in the field with Mr. Bishop and after this period Mr. Bishop appears able to continue the work quite satisfactorily alone.

52. Adequacy of Compilation

The compilation of planimetric detail appeared quite adequate considering the presentation of field data. The original field inspection, however, was deficient in some respects.

The shoreline detail presented by the original field inspection was very much generalized. Considerably more detail is shown on Nautical Chart No. 6381, and the shoreline on this old chart is substantially better than shown on the new compilation. Shoreline and foreshore revision applied from field edit information.

Interior detail in general is satisfactory, except for a couple of poor road alinements through the woods. The field inspection "guessed" in a couple of roads on Stuart Island with poor results, one very poor alinement, and one road, evidently added by stereoscope inspection, is not on the ground at all, although it is not unreasonable to expect a road in the locality.

These deficiencies, particularly the descrepancies between the now shoreline and the old chart, have been discussed with the field inspector who is still in the area on Ph-98. He complains that at the time of the field inspection he was not allowed time for a complete and adequate inspection and that the field supervisor was for practical purposes budgeting time to the various phases of the field survey in order to complete field inspection of the project by a fixed date.

53. Map Accuracy

No serious error in horizontal position could be developed. The vertical accuracy of the map has been rather disappointing. Extensive resketching has been necessary as shown on the attached plat. Errors in contouring appear principally in fairly heavily wooded cover, although error is also apparent in some cases where the trees are rather thin and the ground fairly open in patches. Topographic detail and expression was also lacking, and small tops were missed or combined.

About 17 miles of vertical accuracy profile were run, not for the sake of testing alone, but to resketch contouring rather obviously in error. All shots taken were included in the profile summary because of the difficulty in selecting shots representative of the quad as a whole as well as of a particular area. The inclusion of every shot in an area of good contouring will make the summary appear at its best, but to do this it seems proper to include all shots in the poor areas also. 471 shots are summarized of which 115 or 24% are in error over a half contour interval, and 65 or 14% are in error over a full interval.

54. Recommendations

No recommendations can be submitted at this time.

55. Examination of proof copy

Mr. Ed Chevalier of Friday Harbor, Washington has agreed to examine a proof copy of the map for errors or omissions.

Two descrepancies in geographic names were noted. Cemetery Island is best known locally as Skull Island because it was an old Indian burial ground and bones were found there from time to time. It is shown on the old General Land Office plat as Cemetary Island. Gossip Island is well-known locally as Happy Island because of old Indian drinking parties that used to take place here. The General Land Office plat shows it as George Island. No attempt has been made to evaluate these names since the original geographic names report is not available to the field editor.

56. Political Boundaries and Land Lines

A new state park, The Reid Harbor State Park, has been established on Stuart Island. There has been very little development of the park area beyond the construction of two new piers. There is no access by road from the park development to the rest of the island. The park boundary is described with reference to lot lines which are plotted on the original General Land Office plats. The description of the park boundary follows:

Deed to Reid Harbor State Park copied from Deed

Book 25, page 30; filed in the Office of the Auditor, County of San Juan, Washington.

Statutory Warranty Deed

The grantors, Barney Mordhorst, also appearing of record as Barney Mordhorst, Jr., Barnhard Mordhorst, and Bernard Mordhorst, and Mary Mordhorst, husband and wife at all times since acquiring title, for and in consideration of Six Thousand and no/100ths ($6,000.00) Dollars to them in hand paid, conveys and warrants to the State of Washington State Parks and Recreation Commission, the following described real estate, situated in the County of San Juan, State of Washington:

> Government lots two (2) and three (3) and portion of Government lot five (5), lying north of county road; Section twenty-eight (28), Township thirty-seven (37) north, Range Four (4) west, W. M.;

and as part of the same transaction and for the same consideration the said Grantors, Barney Mordhorst and Mary Mordhorst, convey and quit claim to the Grantor, State of Washington State Parks and Recreation Commission, all interest in the following:

> All tidelands of the second class situate in front of, adjacent to, or abutting upon the above described uplands;

Dated this thirteenth day of June 1952.

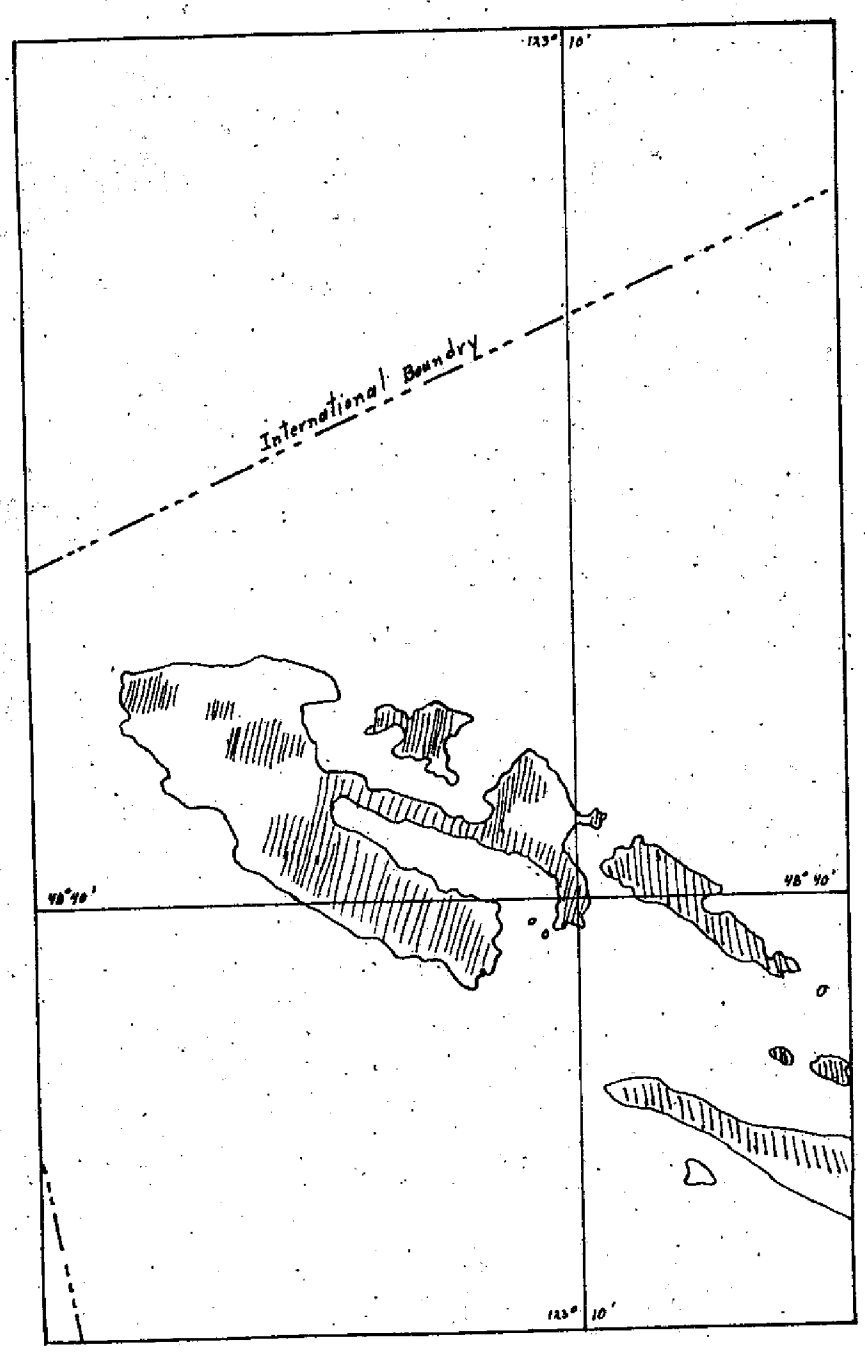
(Signed) BARNEY MORDHORST
MARY MORDHORST

Approved and forwarded:

Fred Natella
Comdr., USC&GS
Chief of Party

Respectfully submitted:

Ray H. Skelton II
Cartographer



Quad. T-5588

Hatched areas are areas of re-sketched topography

TABULATION OF VERTICAL ACCURACY TESTS
Map Manuscript T-5588
Project Ph-26 (47)

Profile elev. (ft.)	Map elev.	± Error	±-Error after -40 ft. shift	Remarks
1. BIG CACTUS ISLAND				
24	24	0		
90	94	±4	0	
68	110	±42	±42	
46	104	±58	±55	
65	72	±7	0	
41	80	±39	±26	
24	20	-4	0	
36	19	-17	-10	
2. LITTLE CACUTS ISLAND				
39	70	±31	±14	
40	70	±30	±21	
3. JOHN ISLAND				
42	38	-4	0	
128	98	-30	-26	
32	32			
33	57	±24	±10	
52	55	±3	0	
48	65	±17	±10	
45	65	±20	±10	
54	121	±67	±61	
54	121	±67	±61	
44	52	±8	0	
63	65	±2	0	
53	43	-10	0	
59	102	±43	±38	
13	13			
10	10			
33	95	±62	±54	
8	10	±2	0	
17	80	±63	±51	
41	108	±67	±61	
13	20	±7	0	
31	31			
52	80	±28	±10	
47	18	-29	-10	

Profile elev. (ft.)	Map elev.	± Error	± Error after -40 shift	Remarks
3. JOHN ISLAND (cont)				
39	18	-21	- 4	
52	21	-31	-11	
62	78	±16	± 1	
73	83	±10	± 9	
40	30	-10	0	
65	67	± 2	0	
46	46			
26	10	-16	0	
55	50	- 5	- 4	
59	55	- 4	- 4	
52	45	- 7	- 7	
64	64			
34	40	± 6	± 4	
23	30	± 7	0	
19	22	± 3	± 1	
11	11			
30	30			
32	36	± 4	0	
31	38	± 7	0	
46	60	±14	0	
61	70	± 9	0	
51	40	-11	- 7	
34	38	± 4	± 4	
34	40	± 6	± 6	
36	41	± 5	± 4	
39	35	- 4	- 4	
44	41	- 3	0	
48	48			
94	108	±14	± 6	
110	125	±15	± 8	
89	91	± 2	0	
93	100	± 7	0	
52	52			
54	62	± 8	± 6	
47	37	-10	- 5	
51	57	± 6	0	
70	68	- 2	0	
64	67	± 3	0	
84	92	± 8	0	
80	115	±35	±22	
76	122	±46	±50	
84	108	±24	±18	
68	100	±32	±22	
71	67	- 4	0	
57	42	-15	0	
56	62	± 6	0	

Profile elev. (ft.)	Map elev.	± Error	± Error after - 40 shift	Remarks
4. SATELLITE ISLAND				
15	5	-10	0	
45	50	± 5	0	
39	38	- 1	0	
39	60	±21	0	
95	92	- 3	0	
113	101	-12	0	
102	111	± 8	± 2	
12	19	± 7	0	
26	41	± 15	± 9	
23	60	±37	±20	
23	68	±45	±37	
29	81	±52	±45	
21	81	±60	±39	
51	95	±44	±44	
52	107	±55	±44	
68	123	±55	±51	
94	150	±56	±51	
147	199	±52	±48	
227	224	- 3	- 3	
240	225	-15	-15	
247	226	-21	-21	
244	226	-18	-18	
233	225	- 8	- 8	
237	223	-14	-14	
226	211	-15	- 6	
173	158	-15	- 5	
94	84	-10	0	
5. GOSSIP ISLAND				
28	41	±13	0	
6. STUART ISLAND				
12	18	± 6	± 6	
69	80	±11	± 3	
65	70	± 5	± 5	
104	110	± 6	0	
119	128	± 9	0	
140	155	±15	± 5	
29	35	± 6	± 2	
36	40	± 4	± 4	
53	58	± 5	± 5	
54	68	±14	± 8	
58	65	± 7	± 7	
228	238	±10	± 2	

Profile Elev. (ft.)	Map elev.	± Error	± Error after - 40 shift	Remarks
6. STUART ISLAND (cont)				
207	217	+10	+10	
225	238	+13	+13	
379	381	+ 2	0	
411	420	+ 9	0	
465	481	+16	+ 5	
231	250	+19	+10	
250	258	+ 8	+ 5	
323	330	+ 7	0	
246	270	+24	+14	
257	270	+13	0	
255	260	+ 5	0	
208	211	+ 3	0	
195	205	+10	+ 5	
175	170	- 5	0	
144	170	+26	+14	
110	122	+12	0	
76	81	+ 5	0	
27	23	- 4	0	
94	97	+ 3	+ 3	
106	112	+ 6	+ 2	
120	128	+ 8	+ 2	
144	148	+ 4	0	
161	159	- 2	0	
212	205	- 7	0	
238	228	-10	0	
254	254	0	0	
159	170	+11	+11	
198	221	+23	+ 7	
241	239	- 2	0	
302	318	+16	0	
337	337	0	0	
170	175	+ 5	+ 5	
179	179			
216	226	+10	0	
206	202	- 4	- 7	
212	217	+ 5	+ 5	
195	200	+ 5	+ 5	
224	220	- 4	0	
246	246	0	0	
226	228	+ 2	0	
246	246			
250	250			
259	265	+ 6	+ 2	
253	260	+ 7	+ 7	
280	281	+ 1	0	
190	199	+ 9	+ 8	
177	217	+40	+33	

Profile elev. (ft.)	Map elev.	∠ Error	∠ Error after - 40 shift	Remarks
6. STUART ISLAND (cont)				
177	205	∠28	∠23	
181	200	∠19	∠16	
164	179	∠15	∠15	
136	161	∠25	∠17	
103	140	∠37	∠37	
127	143	∠16	∠12	
132	135	∠03	0	
125	139	∠14	∠ 5	
123	135	∠12	∠ 7	
115	130	∠15	∠ 6	
129	139	∠10	∠ 6	
140	138	- 2	0	
136	128	- 8	- 5	
130	122	- 8	- 6	
86	98	∠12	∠ 4	
40	60	∠20	0	
109	129	∠20	∠12	
134	150	∠16	∠16	
85	105	∠20	∠10	
113	123	∠ 10	∠ 5	
110	110	0	0	
90	110	∠20	∠10	
106	110	∠ 4	0	
76	86	∠10	0	
37	67	∠30	∠ 3	
53	62	∠ 9	∠ 5	
70	88	∠18	0	
90	102	∠12	∠ 8	
108	122	∠14	∠ 2	
82	125	∠43	∠37	
118	122	∠ 4	0	
67	118	∠51	∠35	
87	119	∠32	∠15	
96	103	∠ 7	0	
77	87	∠10	∠ 3	
34	58	∠24	∠10	
28	41	∠13	∠ 3	
38	63	∠25	∠12	
38	70	∠32	∠17	
62	102	∠40	∠33	
96	106	∠10	∠ 4	
127	122	- 5	- 5	
86	80	- 6	0	
62	103	∠41	∠36	
32	75	∠43	∠30	
42	70	∠28	∠18	
45	61	∠16	0	

Profile elev. (ft.)	Map elev.	∠ Error	∠ Error after - 40 shift	Remarks
6. STUART ISLAND (cont)				
18	45	∠27	∠22	
66	63	- 3	- 3	
36	63	∠27	-24	
62	62	0	0	
19	29	∠10	0	
64	80	∠16	∠11	
72	100	∠28	∠13	
81	101	∠20	∠ 4	
104	104			
127	125	- 2	0	
142	142			
129	138	∠ 9	0	
107	117	∠10	0	
22	22			
29	12	-17	- 7	
24	10	-14	- 4	
25	25			
20	19	- 1	0	
43	43			
87	87			
74	74			
60	68	∠ 8	∠ 1	
58	60	∠ 2	0	
51	59	∠ 8	0	
74	75	∠ 1	0	
94	94			
110	112	∠ 2	0	
129	121	- 8	- 6	
97	95	- 2	0	
98	123	∠25	∠22	
106	125	∠19	∠19	
73	110	∠37	∠27	
80	105	∠25	∠20	
92	105	∠13	∠ 9	
60	70	∠10	∠ 1	
31	32	∠ 1	0	
16	20	∠ 4	0	
73	65	- 8	∠ 8	
62	58	- 4	- 2	
77	81	∠ 4	∠ 2	
72	65	- 7	0	
70	70			
21	30	∠ 9	∠ 8	
13	18	∠ 5	∠ 5	
20	23	∠ 3	∠ 2	
17	17			
22	22			

Profile elev. (ft.)	Map elev.	≠ Error	≠ Error after - 40 shift	Remarks
6. STUART ISLAND (cont)				
137	163	≠26	≠23	
143	170	≠27	≠15	
138	160	≠22	≠ 2	
91	121	≠30	≠10	
133	141	≠ 8	0	
92	132	≠40	≠28	
73	99	≠26	≠ 2	
79	97	≠18	0	
78	120	≠42	≠20	
65	125	≠60	≠35	
53	58	≠ 5	0	
31	8	-23	0	
262	265	≠ 3	0	
230	258	≠28	≠25	
232	230	- 2	0	
208	200	- 8	0	
170	170			
190	190			
195	190	- 5	0	
198	202	≠4	0	
107	107			
223	223			
245	248	≠ 3	0	
256	270	≠14	≠ 6	
256	256			
216	228	≠12	0	
214	222	≠ 8	≠ 4	
196	203	≠ 7	≠ 3	
191	188	- 3	0	
205	205			
194	194			
186	186			
176	222	≠46	≠42	
211	245	≠34	≠27	
214	243	≠29	≠26	
200	241	≠41	≠38	
195	232	≠37	≠30	
201	238	≠37	≠29	
191	199	≠ 8	0	
178	202	≠24	≠12	
196	216	≠20	≠20	
196	210	≠14	≠14	
218	231	≠13	≠11	
217	231	≠14	≠ 5	
213	222	≠ 9	≠ 5	
207	218	≠11	≠ 8	
200	210	≠10	≠10	

Profile elev. (ft.)	Map elev.	± Error	± Error after - 40 shift	Remarks
6. STUART ISLAND (cont)				
198	208	+10	+ 9	
251	238	-13	0	
298	285	-13	0	
346	361	+15	+12	
164	172	+ 8	0	
164	173	+ 9	+ 3	
158	168	+10	+ 4	
132	139	+ 7	0	
106	121	+15	0	
110	121	+11	0	
110	119	+ 9	+ 2	
126	139	+13	+ 4	
87	92	+ 5	0	
77	81	+ 4	0	
68	78	+10	+ 4	
66	80	+14	+10	
47	62	+15	+ 3	
24	30	+ 6	0	
54	61	+ 7	0	
66	62	- 4	0	
55	75	+20	+ 8	
57	75	+18	+ 8	
45	55	+10	0	
42	52	+10	0	
44	56	+12	0	
45	38	- 7	0	
50	60	+10	0	
65	79	+14	0	
81	81	0	0	
87	87	0	0	
96	101	+ 5	0	
100	104	+ 4	+ 1	
104	112	+ 8	+ 8	
102	112	+10	+ 8	
86	86	0	0	
65	63	- 2	0	
43	40	- 3	0	
28	10	-18	0	
63	63	0	0	
41	30	-11	- 3	
81	79	- 2	0	
217	247	+30	+25	
46	46	0	0	
50	47	- 3	0	
33	43	+10	+ 2	
48	70	+22	+13	
57	70	+13	+ 4	

Profile elev. (ft.)	Map elev.	± Error	± Error after - 40 shift	Remarks
6. STUART ISLAND (cont)				
56	70	±14	± 4	
75	95	±20	±15	
101	118	±17	±11	
111	120	± 9	± 7	
119	128	± 9	0	
150	160	±10	± 2	
142	155	±13	± 5	
159	173	±14	± 2	
186	220	±34	±24	
238	243	± 5	0	
257	272	±15	±11	
280	292	±12	± 2	
282	298	±16	± 6	
248	275	±27	±22	
193	241	±48	±32	
275	319	±44	±30	
288	292	± 4	0	
274	268	- 6	0	
254	254	0	0	
234	238	± 4	0	
191	200	± 9	0	
126	140	±14	± 4	
114	130	±16	± 7	
134	157	±23	±16	
157	163	± 6	± 3	
155	165	±10	± 6	
141	142	± 1	0	
124	122	- 2	0	
113	113	0	0	
100	105	± 5	± 2	
89	98	± 9	± 3	
78	81	± 3	± 1	
69	72	± 3	0	
65	65	0	0	
45	45	0	0	
27	27	0	0	
119	125	± 6	± 2	
136	142	± 6	± 2	
148	148	0	00	
152	139	-13	-12	
7. SPIEDEN ISLAND - Sta. Vine to Bthse N. side of Island				
124	132	± 8	0	
204	200	- 4	0	
231	231	0	0	
242	260	±18	0	
203	245	±42	±39	

Profile Elev. (ft.)	Map elev.	± Error	± Error after - 40 shift	Remarks
7. SPIEDEN ISLAND				
204	241	+37	+31	
183	235	+52	+42	
211	230	+19	+14	
190	221	+31	+25	
153	199	+46	+27	
120	122	+ 2	0	
162	170	+ 8	0	
141	160	+19	+14	
89	110	+21	+10	
168	185	+17	+ 7	
132	160	+28	+18	
75	81	+ 6	- 0	
182	240	+38	+18	
172	190	+18	+13	
129	150	+21	+ 6	
124	150	+26	+14	
158	170	+12	0	
83	103	+20	0	
58	80	+22	0	
123	143	+20	+12	
139	143	+ 4	0	
147	160	+13	+ 8	
135	140	+ 5	0	
118	118	0	00	
93	105	+12	+ 9	
141	155	+14	+ 9	
146	146	0	0	
164	158	- 6	- 4	
143	153	+10	+ 2	
108	128	+20	+12	
82	120	+38	+20	
46	65	+19	0	
47	82	+35	0	
From Bathhouse southeast along north shore				
39	60	+21	0	
41	60	+19	0	
94	90	- 4	0	
97	108	+11	0	
90	120	+30	+11	
55	55	0	0	
54	45	- 9	0	
51	82	+31	+14	
59	41	-18	0	
75	99	+24	+ 5	
50	79	+29	0	

Profile elev. (ft.)	Map elev.	± Error	± Error after - 40 shift	Remarks
From Bathhouse southeast along north shore (cont)				
46	60	+14	0	
45	20	-25	0	
Spur southwest from above line				
184	238	+54	+39	
165	199	+34	+20	
From Airstrip southeast along ridge then northeast along logging road				
183	175	- 8	- 3	
179	160	-19	-14	
206	201	- 5	0	
239	245	+ 6	+ 1	
259	262	+ 3	+ 1	
267	261	- 6	- 4	
270	269	- 1	0	
302	302	0	0	
275	275	0	00	
300	301	+ 1	0	
267	257	-10	- 6	
214	214	0	0	
174	200	+26	+ 6	
156	200	+44	+26	
150	201	+51	+45	
140	182	+42	+35	
130	165	+35	+30	
101	159	+58	+48	
98	145	+47	+37	
107	160	+53	+38	
77	125	+48	+41	
Cuts				
377	374	- 3	- 2	
329	324	- 5	- 4	

Review Report T-5588
Topographic Map
25 May 1955

62. Comparison with Registered Topographic Surveys:

T-2193	1:10,000	1894

The configuration and position of the shoreline between T-5588 and T-2193 is in quite close agreement. T-5588 supersedes T-2193 for nautical charting purposes for the area it covers.

63. Comparison with Maps of Other Agencies:

There are no quadrangle maps of other agencies for the area of this map.

64. Comparison with Contemporary Hydrographic Surveys:

H-2214	1:10,000	1894
H-2215	1:10,000	1894

There are no contemporary or recent hydrographic surveys in the area of this map.

65. Comparison with Nautical Charts:

6379	1:20,000	3/2/53
6380	1:80,000	8/9/54

On chart 6379, two rocks—one of them submerged—at approximate latitude 48° 38.9' and longitude 123° 08.1' are not shown on T-5588. Field inspection did not indicate rocks at this location although the photograph image indicates heavy kelp or shoaling. The area is shown as shoal and with kelp on T-5588.

On chart 6380 two piers are not shown at approximate latitude 48° 40.5' and 123° 11.9. One pier is not shown at approximate latitude 48° 40' and longitude 123° 11'. These features appear on T-5588. Additional piling, a snag and temporary log booms in the area of Reid Harbor appear on T-5588 but not on the chart.

There are differences in the extent of ledge and mean low water line shown between the charts and the map. These features are considered only as approximate on T-5588.

66. Adequacy of Results and Future Surveys:

As noted in the field edit report, a considerable amount of vertical accuracy profile was run to serve the dual purpose of testing and correcting the topography. Planimetric and cultural details were also verified.

Adequacy of Results and Future Surveys (Continued)

It is concluded that with the applied field edit corrections the map meets the National Standards of Map Accuracy, except possibly for contours.

Reviewed by:

K. N. Maki

K. N. Maki

APPROVED:

L C Landy

Chief, Review Section
Photogrammetry Division

J E Waugh 10/18/60

Chief, Nautical Chart Branch
Charts Division

H H Peterson

Chief, Photogrammetry Division

1 Sept 60

J. Bowie

Chief, Coastal Surveys Division

History of Hydrographic Information
for Topographic Map T-5588

Hydrography was applied to the north and south halves of this map in accordance with the Photogrammetry Division General Specifications of 18 May 1949.

Soundings and depth curves are in feet at mean lower low water and originate with the following U.S.C.&G.S. hydrographic surveys:

H-2113	1:20000	1891
H-2214	1:10000	1894
H-2215	"	"

Hydrography was compiled by O. Svendsen, Nautical Chart Branch.

O. Svendsen

O. Svendsen, 22 June 1955

NAUTICAL CHARTS BRANCH

SURVEY NO. T-5588

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10-5-81	6300	Charles Jones	Before ~~After~~ Verification and Review
~~2/3/84~~	~~18421~~	~~B. Fernandez~~	Apply thru Cht 6380 Drg # 48
2/3/84	18421	B. Fernandez	Before ~~After~~ Verification and Review Drg #52
			Adequately Applied (No Corr.)
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			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.