
U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Shoreline (Photogrammetric)

Field No. Ph-5905 Office No. T-11589

LOCALITY

State Washington

General locality Skagit Bay - Whidbey Island

Locality Dugualla Bay

1959-60

CHIEF OF PARTY

Lorne G. Taylor & Fred Natella

LIBRARY & ARCHIVES

DATE September 1964
DESCRIPTIVE REPORT - DATA RECORD

T-11589

Project No. (II): Ph-5905  Quadrangle Name (IV):

Photogrammetric Office (III): Portland, Oregon  Unit Chief: W. V. Hull
Instructions dated (II) (III): 10 Feb. 1960 II  Officer-in-Charge: Lorne G. Taylor
Supplement 1,  5 May 1960 II & III & Fred Natella
Copy filed in Division of
Photogrammetry (IV)

Method of Compilation (III): Kelsh Instrument and Graphic
Manuscript Scale (III): 1:10,000  Stereoscopic Plotting Instrument Scale (III): 1:6000
Scale Factor (III): None  Pantograph Scale 1:10,000

Date received in Washington Office (IV): Date reported to Nautical Chart Branch (IV):
Applied to Chart No. Date: Date registered (IV):

Publication Scale (IV):
Geographic Datum (III): N.A. 1927

Vertical Datum (III): X
Mean sea level except as follows:
Elevations shown as (25) refer to mean high water
Elevations shown as (2) refer to sounding datum
i.e., mean low water or mean lower low water

Reference Station (III): DUGUALL (USN) 1954
Lat.: 48° 21' 25.224"  Long.: 122° 35' 49.640"
Adjusted X
Unadjusted

Plane Coordinates (IV):
State: Washington  Zone: North
Y = 499,914.05  x = 1,571,198.45

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.
Areas contoured by various personnel
(Show name within area)
(I) (II) (III)
FIELD INSPECTION BY (II): W. V. Hull & R. B. Melby

DATE: April & June 1960

PLANETABLE CONTOURING BY (II):

DATE:

COMPLETION SURVEYS BY (II):

DATE:

MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): 3-17-60 and 6-23-60 by field inspection, refinement by stereoscopic examination in office and compilation by graphic methods.

PROJECTION AND GRIDS RULED BY (IV): J. Keefer

DATE: 6-16-60

PROJECTION AND GRIDS CHECKED BY (IV): W. S.

DATE: 8-18-60

CONTROL PLOTTED BY (III): C. C. Harris

DATE: 9-29-60

CONTROL CHECKED BY (III): L. L. Graves

DATE: 10-5-60

RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III): J. L. Harris

DATE: 10-12-61

W. A. Kuncis

DATE: July 1960

STEREOSCOPIC INSTRUMENT COMPILATION (III):

PLANIMETRY: D. N. Williams

DATE: 12-27-60

CONTOURS

DATE:

MANUSCRIPT DELINEATED BY (III): C. H. Bishop, rough draft

DATE: 4-14-61

C. H. Bishop, Scribings

DATE: 6-30-61

C. C. Harris, Stick-up

DATE: 9-7-61

PHOTOGRAHAMETRIC OFFICE REVIEW BY (III): C. C. Harris, Rough draft

DATE: 4-20-61

J. E. Deal, Advance

DATE: 9-15-61

ELEVATIONS ON MANUSCRIPT

CHECKED BY (II) (III): None.

DATE:
DESCRIPTIVE REPORT - DATA RECORD

Camera (kind or source) (III):
C&GS Nine lens - focal length 8.25 inches
& Single lens "S"

PHOTOGRAPHS (III)

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Time</th>
<th>Scale</th>
<th>Stage of Tide</th>
</tr>
</thead>
<tbody>
<tr>
<td>60218 &amp; 60219</td>
<td>9-9-59</td>
<td>11:12</td>
<td>1:10,000</td>
<td>8.7' above MLLW</td>
</tr>
<tr>
<td>60-5-2718 &amp; 2719</td>
<td>4-26-60</td>
<td>11:25</td>
<td>1:30,000</td>
<td>-0.2' below MLLW</td>
</tr>
</tbody>
</table>

Tide (III)

<table>
<thead>
<tr>
<th>Ratio of Ranges</th>
<th>Mean Range</th>
<th>Spring Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7.6</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td>6.9</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Reference Station: Seattle, Washington
Subordinate Station: Ala Spit, Washington

Washington Office Review by (IV):

Final Drafting by (IV):

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 12
Shoreline (More than 200 meters to opposite shore) (III): 3.5
Shoreline (Less than 200 meters to opposite shore) (III): 1.5
Control Leveling - Miles (II):

Number of Triangulation Stations searched for (II): 9 Recovered: 8 Identified: 2
Number of BMs searched for (II): None Recovered: Identified: 2
Number of Recoverable Photo Stations established (III): 2
Number of Temporary Photo Hydro Stations established (III): None

Remarks:
FIELD INSPECTION REPORT

Map Manuscript T-11589

Project Ph-5905

Refer to the Field Inspection Report for the entire Project Ph-5905 by Wesley V. Hall, February 1960 to September 1960.

Filed with Desn. Report T11584

7.
PHOTOGRAMMETRIC PLOT REPORT

Map Manuscript T-11589

Project Ph-5905


Refer to Photogrammetric Plot Report (Radial Plot) for manuscripts T-11584 thru T-11586 and T-11589 thru T-11593 which is included in the Descriptive Report for T-11584.
<table>
<thead>
<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>DATUM</th>
<th>LATITUDE OR y-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET, OR PROJECTION LINE IN METERS FORWARD (BACK)</th>
<th>DATUM CORRECTION</th>
<th>N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUGUALLA (USN) 1954</td>
<td>Wash. N. 273</td>
<td>N.A. 1927</td>
<td>499,914.05</td>
<td>4914.05 (85.95)</td>
<td>1497.8 (26.2)</td>
<td></td>
</tr>
<tr>
<td>Sub Station</td>
<td>Wash. Office Comp.</td>
<td></td>
<td>499,718.7</td>
<td>4718.7 (281.3)</td>
<td>1438.3 (85.7)</td>
<td></td>
</tr>
<tr>
<td>ANDERSON (USN) 1954</td>
<td>Wash. N. 272</td>
<td>N.A.</td>
<td>496,651.17</td>
<td>1651.17 (3348.83)</td>
<td>503.3 (1020.7)</td>
<td></td>
</tr>
<tr>
<td>Sub Station</td>
<td>Office Comp.</td>
<td></td>
<td>496,507.03</td>
<td>1807.03 (3192.97)</td>
<td>550.8 (973.2)</td>
<td></td>
</tr>
<tr>
<td>AULT E. BASE 1954</td>
<td>Wash. N. 270</td>
<td>N.A.</td>
<td>500,937.72</td>
<td>31.72 (4968.28)</td>
<td>9.7 (1514.3)</td>
<td></td>
</tr>
<tr>
<td>BOULDER, 1907</td>
<td></td>
<td>N.A.</td>
<td>506,144.78</td>
<td>144.78 (3855.22)</td>
<td>348.9 (1175.1)</td>
<td></td>
</tr>
<tr>
<td>COOK (USN) 1954</td>
<td>Wash. N. 272</td>
<td>N.A.</td>
<td>498,825.18</td>
<td>3825.18 (1174.82)</td>
<td>1165.9 (358.1)</td>
<td></td>
</tr>
<tr>
<td>JOLLAY, 1954</td>
<td></td>
<td>N.A.</td>
<td>491,001.91</td>
<td>1001.91 (3998.09)</td>
<td>305.4 (1218.6)</td>
<td></td>
</tr>
<tr>
<td>STONE, 1907</td>
<td></td>
<td>N.A.</td>
<td>506,100.29</td>
<td>1000.29 (3899.71)</td>
<td>335.4 (1188.6)</td>
<td></td>
</tr>
<tr>
<td>UGLY, 1939 R.M. 1</td>
<td>Office Comp.</td>
<td></td>
<td>498,425.46</td>
<td>3425.46 (1504.54)</td>
<td>1065.4 (458.6)</td>
<td></td>
</tr>
</tbody>
</table>

1 FT. = 30.48006 METER

J.L.H. 6-13-60
C.H.B. 9-12-60
J.E.D. 6-14-60
C.H.B. 9-17-60

COMPILED BY J.L.H. - C.H.B.
COMPILATION REPORT

Map Manuscript T-11589
Project Ph-5905

31. Delineation:

Except for a small area in the northeastern part of the manuscript which was beyond the limits of the Kelsh models, the compilation was accomplished by the Kelsh Instrument. In this area the compilation was done by graphic means using nine lens photographs.

Items 32 thru 34:

Refer to the Descriptive Report for T-11588 (1960).

35. Shoreline and Alongshore Features:

The mean high-water line and alongshore features were adequately field inspected and no difficulties were encountered.

Low-water and shoal lines shown on the manuscript should be fairly accurate since the single lens photography was made when the predicted tide was 0.2 ft. below M.L.L.W. It was not possible to continue the determination of these lines on adjoining map manuscripts to the north and east because the areas are covered by nine-lens photographs taken when the predicted tide was 8.7 ft. above M.L.L.W.

36. Offshore Details:

Rocks awash, dolphins and piling are features which have been compiled just offshore from the M.H.W.L.

37. Landmarks and Aids:

There are no landmarks.

Forms 567 are submitted for two fixed aids to navigation.
38. **Control for Future Surveys:**

None.

39. **Junctions:**

Satisfactory junctions were made with T-11585 on the north, T-11588 on the west, T-11590 on the east and T-11596 on the south. Refer to Item 35 relative to junctions of low-water and shoal lines to north and east.

**Items 40, 46 and 47:**

Refer to the Descriptive Report for T-11588 (1960).

---

**Approved:**

Fred Natella, CAPT, C&GS  J. Edward Deal
Portland District Officer  Cartographer

**Respectfully submitted:**
49. Notes to the Hydrographer:

None.
<table>
<thead>
<tr>
<th>COMPILED DATE</th>
<th>COMPILED ITEM</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Interior detail added</td>
<td>Sept. 15, 1961</td>
<td></td>
</tr>
<tr>
<td>Compilation complete</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PHOTOGRAMMETRIC OFFICE REVIEW
T. 11589


CONTROL STATIONS
5. Horizontal control stations of third-order or higher accuracy  X  6. Recoverable horizontal stations of less than third-order accuracy (topographic stations)  X  7. Photo hydro stations None  8. Bench marks None

ALONGSHORE AREAS
(Nautical Chart Data)

PHYSICAL FEATURES

CULTURAL FEATURES

BOUNDARIES
31. Boundary lines  X  32. Public land lines None

MISCELLANEOUS
40. Carita C. Harris Reviewer
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.

Compiler

Supervisor

43. Remarks:
48. **Geographic Names:**

Durualla Bay

Skagit Bay

Whidbey Island

[Signature: Geographic Names Section 22 February 1963]
Review Report
Shoreline Surveys
T-11584 thru T-11593
May 1964

61. General Statement

These are ten (10) shoreline maps of project PH-5905, Puget Sound, Washington. These maps were prepared primarily to provide basic maps, including the location of all non floating aids and landmarks for use in revising our nautical charts and for control of proposed hydrographic surveys.

62. Comparison with Registered Topographic Surveys

<table>
<thead>
<tr>
<th>Map</th>
<th>Scale 1:</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-1252</td>
<td>10,000</td>
<td>1871</td>
</tr>
<tr>
<td>T-2156</td>
<td>20,000</td>
<td>1889</td>
</tr>
<tr>
<td>T-2856</td>
<td>20,000</td>
<td>1908</td>
</tr>
<tr>
<td>T-6684b</td>
<td>10,000</td>
<td>1939</td>
</tr>
<tr>
<td>T-6685a&amp;b</td>
<td>10,000</td>
<td>1939</td>
</tr>
<tr>
<td>T-6686</td>
<td>10,000</td>
<td>1939</td>
</tr>
<tr>
<td>T-6687</td>
<td>5,000</td>
<td>1939</td>
</tr>
<tr>
<td>T-6689</td>
<td>5,000</td>
<td>1939</td>
</tr>
<tr>
<td>T-6769</td>
<td>10,000</td>
<td>1940</td>
</tr>
</tbody>
</table>

Agreement with the above surveys is in general fair. There are many differences most of which are due to natural changes, but the general picture presented by the above surveys are reasonably similar to that of the present surveys. The above surveys are to be superseded for the common area.

63. Comparison with Maps of Other Agencies

<table>
<thead>
<tr>
<th>Agency</th>
<th>Scale 1:</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deception Pass</td>
<td>62,500</td>
<td>1951</td>
</tr>
<tr>
<td>Utsalady</td>
<td>24,000</td>
<td>1956</td>
</tr>
<tr>
<td>Conway</td>
<td>24,000</td>
<td>1956</td>
</tr>
</tbody>
</table>

There are small cultural and shoreline differences but in general the agreement is good.

64. Comparison with Contemporary Hydrographic Surveys

None

65. Comparison with Nautical Charts

See item 47.
66. **Accuracy of Results and Future Surveys**

These surveys comply with instructions and meet the National Standard of Map Accuracy.

Reviewed by:

[Signature]

L. C. Lande

Approved by:

[Signature]

Charles Shannon

Chief, Photogrammetric Branch

[Signature]

Chief, Nautical Chart Division

[Signature]

Chief, Photogrammetry Division

7/27/44
### INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

<table>
<thead>
<tr>
<th>CHART</th>
<th>DATE</th>
<th>CARTOGRAPHER</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6300</td>
<td>8-17-65</td>
<td>E.R. Johnson</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No.</td>
</tr>
<tr>
<td>18427</td>
<td>3-24-80</td>
<td>S.M. HiCov</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 25</td>
</tr>
<tr>
<td>18441</td>
<td>3-24-80</td>
<td>S.M. HiCov</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 49</td>
</tr>
<tr>
<td>18441B</td>
<td>2-2-81</td>
<td>C. James</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 21</td>
</tr>
<tr>
<td>INSET A</td>
<td>2-6-81</td>
<td>C. James</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 41</td>
</tr>
<tr>
<td>18423A</td>
<td>2-2-81</td>
<td>C. James</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 21</td>
</tr>
<tr>
<td>18421</td>
<td>2-2-81</td>
<td>C. James</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 41</td>
</tr>
<tr>
<td>18400</td>
<td>2-2-81</td>
<td>C. James</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 45</td>
</tr>
<tr>
<td>18440</td>
<td>3-18-81</td>
<td>O.C. Larson</td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No. 33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHART</th>
<th>DATE</th>
<th>CARTOGRAPHER</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Full Part Before After Verification Review Inspection Signed Via Drawing No.</td>
</tr>
</tbody>
</table>