

6104

U. S. COAST & GEODETIC SURVEY  
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6104

Form 504  
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: Washington

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. 10 6104  
Hydrographic }

LOCALITY

Puget Sound

Day Island to Nisqually Reach

to Fox Island

1935.

CHIEF OF PARTY

Jack Senior

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.

Field No. 10

REGISTER NO. **H6104**

State Washington

General locality Puget Sound

Locality ~~Day Island to~~ Nisqually Reach to Fox Island

Scale 1:10,000 Date of survey July - October, 19 35.

Vessel U.S.C. & G.S.S. EXPLORER

Chief of Party Jack Senior

Surveyed by W. Weidlich

Protracted by W. Weidlich

Soundings penciled by W. Weidlich

Soundings in fathoms ~~feet~~

Plane of reference Mean Lower Low Water.

Subdivision of wire dragged areas by \_\_\_\_\_

Inked by G. Resigari

Verified by " "

Instructions dated March 29, 19 34.

Remarks: \_\_\_\_\_

DESCRIPTIVE REPORT  
TO ACCOMPANY HYDROGRAPHIC SHEET NO. 10,  
DAY ISLAND TO NISQUALLY REACH  
PUGET SOUND - WASHINGTON

AUTHORITY:

The hydrography on this sheet was executed under Instructions of the Director, U. S. Coast and Geodetic Survey, dated March 29, 1934.

SCALE:

The scale is 1:10,000. Soundings are in fathoms and fractions thereof.

LIMITS:

This survey covers the entire area south of Day Island to the south end of Ketron Island. The northern limits connects and overlaps with Hydrographic Sheet No. 8; west of Gibson Point with Sheet No. 9; at the western limits, at the entrance to Balch Passage, with sheet No. 12; and at the southern limits with Sheet No. 13. The scales of all connecting sheets are 1:10,000.

METHODS:

The approved methods of the Service were used throughout.

All launch work was performed with good fixes, generally on ranges, which explains the lack of compass headings in the sounding volumes.

The launch "Delta" was used for all the work and the letter days are shown in red.

A ten pound handlead was used in depths of less than fifteen fathoms and in greater depths a steam sounding machine with an eighteen pound lead and stranded wire. All soundings were up and down.

The sounding lines were run in an easterly and westerly direction and are spaced about one hundred meters apart at the northern end of the sheet. South of Toliwa Shoal the lines were spaced two hundred meters apart, with splits between, near the shores, and one hundred meters apart in Comorant Passage.

Additional lines, parallel to the shore, were run at the northern end of the sheet at the request of the Commanding Officer, in order to obtain the low water line. ✓

Cross lines were run in the vicinity of Gibson Point, at the southern end of Fox Island, and at the northern end of Ketron Island. ✓

Soundings were taken at Steilacoom dock and at the Federal Penitentiary pier. Sketches will be found in the sounding volumes, volume No. 5, page 48 and volume No. 7, page 3. U.S. ✓

TIDES:

A portable automatic tide gauge was in operation at the dock at Steilacoom and all reducers were taken from its records covering the period during which the soundings were taken. ✓

CONTROL:

Triangulation and topography furnished the necessary control.

Signal "LUB", although built in advance of the topography was located by sextant fixes in order to obtain a left object and improve the fixes at the western limit of the sheet in vicinity of McNeil Island. Signal "BULL"<sup>(749)</sup> at the time was off the limits of the boatsheet. The signal in question was located on sheet No. 12, and the fixes were recorded in volume No. 2, page 8, and then transferred to sheet No. 10. ✓ 6106

Signal "TUES", is a pile at the east shore immediately west of station "MAR 2" ✓

Signal "POP" is the southernmost of a group of piling, north of the entrance to Chambers Creek. ✓

Signal "WARD", located at the east shore of McNeil Island is a dead tree anchored in sand and gravel, some distance off-shore. ✓

KELP:

The shores are fringed with more or less kelp in season and is very profuse in the immediate vicinity of Gibson Point.

There are several detached patches of thin and also thick kelp on Toliva Shoal, which show only at low and slack water, at other times being towed under by the strong currents.

Thick kelp will also be found in the shoal area north and south

of Ketron Island. ✓

RESULTS AND COMPARISON:

On account of the scarcity of soundings on Chart No. 6460 and not having a photostat copy of previous surveys at hand a fair comparison cannot be made. ✓

The greatest depth obtained by this survey is 93 fathoms, while chart No. 6460 shows depths of 100 and 103 fathoms north of Ketron Island. ✓

The depths of the rocks on Toliva Shoal were reduced from 16 feet to 11 feet and the position of the gas and bell buoy was found to be about 210 meters south of the rocks and not between the rocks as indicated on the chart. ✓

Position of buoy has been corrected on latest edition of chart.

CHARACTERISTICS OF BOTTOM AND SHORE LINE:

East of Fox Island the bottom, in the deeper water, is generally sandy and rocky, sand and gravel and occasional small boulders on the east shore. The west shore of this body of water is rocky with gravel and sand beaches in between. There are numerous boulders on either side of an old pier on which signal "MAC", is located. They bare at low tides. Signal "ADAM", is a large boulder near the high water line and bares at any stage of tide. The south shore of Fox Island is studded with numerous rocks and boulders, the most important of which were located by topography. ✓

The bottom in the vicinity of Toliva Shoal is rocky and sandy with occasional gravel. In deeper water, on either side of the shoal, sandy and muddy bottom will be found. ✓

Extensive sand flats and gravel beaches will be found south of station "MAR 2", on the east shore.

The bottom in Comorant Passage is muddy and soft throughout, with sand, gravel, and small boulders near the shore.

The bottom at the east shore of McNeil Island is sand and gravel, very irregular and steep. ✓

Between Ketron Island and Anderson Island the bottom is soft and muddy, in deeper water, near the shore, sand and gravel will be found.

The south shore of Ketron Island is rocky, with sand and gravel between.

DANGERS AND OBSTRUCTIONS:

Toliva Shoal about one mile south of Gibson Point, constituted the only danger to navigation in mid-channel of the surveyed area. The depth of this shoal was reduced by this survey from 16 feet to 11 feet. This shoal is marked by a red and black horizontal striped gas and bell buoy which at the time of the survey was located about 205 meters south of the rocks. According to reports this buoy went adrift last winter and was picked up at the entrance to Chambers Creek in a very battered condition. Buoy was replaced in position shown on chart No. 6460. The bottom on this shoal is very irregular and the location of the shoalest soundings obtained are given below:

\* See Par. 3  
page 3.

1. A small kelp patch with a least depth of 2-5/6 fathoms at mean lower low water lies about 1700 meters 195° from station "SON". Bottom is rocky and drops off into much deeper water in a northerly direction (Position 1 h). There are several three fathoms spots in the immediate vicinity. Numerous soundings were taken in this locality, several handleads being in use, but only the least depth found was recorded and plotted.

2. A group of rocks with a least depth found of 11 feet at mean lower low water lies about 1752 meters, 192°20' from station "SON" (Positions 10-11 and 21 h). Bottom is very irregular. On position 7 h, sounding forward was 26 feet and aft 13 feet and on position 8 h, the sounding forward of the launch was 27 feet and aft 12 feet. An 18 foot spot lies about 80 meters west of position 10-11 and 21 h. This area is marked by thick kelp during the season and bottom was visible when the soundings were taken. Numerous soundings were taken in this locality, several handleads were used forward and aft, but only the least depths obtained were recorded and plotted.

3. A shoal with a least depth found of 20 feet at mean lower low water lies about 1866 meters, 192° from station "SON" (Position 13 h). This area was marked by thin kelp, bottom is rocky. Similar depths were obtained for about 80 meters in a westerly direction. Depths in this vicinity vary only a foot or so.

4. Location of gas and bell buoy, at the time when the survey was in progress, was 1957 meters, 191°30' from station "SON", in four fathoms of water. Area was marked by kelp. Bottom was sand and gravel.

5. A shoal with a least depth found of 6-4/6 fathoms at mean lower low water lies about 550 meters, 214°30' from station "CHAM" (Positions 65 l and 113 q). Bottom is sandy.

(Lat. 47°11.8')  
(Long. 122°35')

6. Attention is called to the rocks shown on boat sheet at the south end of Ketron Island. These rocks are located by topography but were spotted and sketched by the hydrographer while running along the coast in very thick weather. Foul area extends for about 140 meters from the south end of the island and a 3-4/6 fathoms sounding between positions 110-111 u, marks the extreme end. Detached soundings were taken in the kelp patch and least depth obtained was one fathom (Position 39 v).

} Topo. location  
of rocks  
accepted ✓  
✓

DISCREPANCIES:

1. A sounding of very doubtful character lies about 545 meters  $172\frac{1}{2}^{\circ}$  from station "SON". The interval between positions 75 and 76 c, is out of proportion, the launch being carried along by the strong westerly set. Additional soundings were taken on "e" and "j" days and the depths obtained range from 10 to 11 fathoms. Bottom is sand and gravel and rocky.

✓ Soundings between  
75 and 76 c not  
Plotted

(162) See remark column in volume No. 4, page 42, below position 38, "Completed detached soundings in this area. Could not locate 17 fathom sounding as recorded on position 76 c, in volume No. 2, sheet No. 10. Probable error in sheave reading or recording."

Not Plotted ✓

2. Deep soundings in relatively shoal area were obtained at the east shore of McNeil Island between signals "POL" and "LOM". Two lines of soundings were run parallel to the shore. The outer one gives a depth of 8-1/2 fathoms and the great difference between the soundings was noticed immediately and the fact entered in the sounding volume. Upon returning a line was run inside and between positions 79 and 80 n, and a depth of 7-4/6 fathoms was obtained between shoaler soundings. This checks the 8-1/2 fathoms fairly well and therefore all soundings should be accepted as correct.

✓

Attention is called to the fact that the bottom at the east shore is very irregular, and drops off suddenly into much deeper water near the shore.

✓

CURRENTS:

No current stations were occupied in this area and no doubt all necessary data has been obtained from previous current surveys.

Although there are numerous notes regarding the currents in the sounding volumes nothing definite can be said, except that it was necessary to make erratic changes in direction in order to keep the launch as close as possible on the intended sounding line.

✓

The flood follows the channel in a southwesterly direction but turns north and west when approaching Gibson Point at the south end of Fox Island, increasing in force.

The ebb runs in the opposite direction and is apparently strongest at the east shores of the surveyed area and in the vicinity of Toliva Shoal.

TIDE RIPS:

Heavy tide rips and numerous counter eddies were experienced in the vicinity of Gibson Point, Toliva Shoal and near the southwest shores of Ketron Island.

WEATHER:

Although smoky and hazy at times, ideal weather conditions were experienced while the work was in progress. The sea was smooth and calm practically at all times. At the close of the season however, thick fog delayed the work a great deal.

LANDMARKS:

There are several prominent landmarks in this area. At the east shore the most conspicuous are two tall black smokestacks north of station "CHAM", and a tall brick smokestack at the head of Chambers Creek.

The <sup>U.S.</sup> Federal Penitentiary at the south shore of McNeil Island is an outstanding feature, with large buildings, several watch towers and a tall brick smokestack.

This institution is easily identified at night by the brilliant illumination of the buildings, search lights, and numerous lights along the pier.

ANCHORAGES:

There are no anchorages in this locality, this body of water being exposed to strong southeast winds. Launches and barges belonging to the penitentiary are moored to the floats east of the pier and north of station "MACE". These floats are not shown on the sheet and no records made, except in one instance, as they are subject to changes especially after severe southeast storms.

There are numerous small launches tied up at the head of Chambers Creek. This body of water bares at low tides.

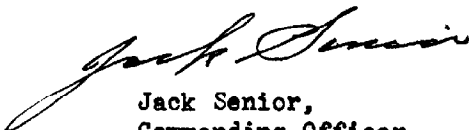


Respectfully submitted,



W. Weidlich,  
Mate, C. & G. Survey,  
U.S.C. & G.S.S. EXPLORER.

APPROVED AND FORWARDED:



Jack Senior,  
Commanding Officer,  
U.S.C. & G.S.S. EXPLORER.

TIDAL NOTE  
TO ACCOMPANY HYDROGRAPHIC SHEET NO. 10

H6104

PUGET SOUND - WASHINGTON

Tide reducers obtained from the observations on the portable gauge at Steilacoom, were used on the entire sheet.

Latitude  $47^{\circ}11'$  north - Longitude  $122^{\circ}36'$  west.

Reference plane, mean lower low water..... 4.9' on staff

Highest tide observed - Oct. 11, 1935.....20.0' on staff

Lowest tide observed - July 16, 1935..... 1.4' on staff

STATISTICS

|                                      |       |
|--------------------------------------|-------|
| Statute miles of sounding lines..... | 296.9 |
| Number of positions.....             | 2137  |
| Number of soundings (hand lead)..... | 3658  |
| Number of soundings (machine).....   | 3148  |

HYDROGRAPHIC SURVEY NO. H6104

Smooth Sheet Yes

Boat Sheet 1

Sounding Records Yes - 8 Vols. \_\_\_\_\_

Descriptive Report Yes

Title Sheet Yes

List of Signals Yes

Landmarks for Charts (Form 567) Yes

Statistics Yes

Approved by Chief of Party No

Recoverable Station Cards (Form 524) No

Special Chart for Lighthouse Service \_\_\_\_\_  
(Circular Nov. 30, 1933)

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Field Records Section (Charts).

HYDROGRAPHIC SHEET NO. **H6104**

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

|  |       |
|--|-------|
| Number of positions on sheet                         | 2137  |
| Number of positions checked                          | 70    |
| Number of positions revised                          | 7     |
| Number of soundings recorded                         | 6806  |
| Number of soundings revised                          | 13    |
| Number of signals erroneously plotted or transferred | ..... |

Date: *Nov. 3, 1936*

Verification by *S. Pisegari*

Review by *John G. Ladd*

Time: *13 days 5 1/2 hrs.*

Time: *1 day 4 hrs.*

Remarks

Decisions

|    | Remarks                                     | Decisions       |
|----|---|-----------------|
| 1  |   |                 |
| 2  | <i>NAMED in honor of Thomas W. Chambers</i> | <u>CHAMBERS</u> |
| 3  |   |                 |
| 4  |   |                 |
| 5  |   |                 |
| 6  |   |                 |
| 7  |   |                 |
| 8  |   |                 |
| 9  |   |                 |
| 10 |   |                 |
| 11 |   |                 |
| 12 |   |                 |
| 13 |   |                 |
| 14 |   |                 |
| 15 |   |                 |
| 16 |   |                 |
| 17 |   |                 |
| 18 |   |                 |
| 19 |   |                 |
| 20 |   |                 |
| 21 |   |                 |
| 22 |   |                 |
| 23 |   |                 |
| 24 |   |                 |
| 25 |   |                 |
| 26 |   |                 |
| 27 |   |                 |

GEOGRAPHIC NAMES

Survey No. H6104

| Name on Survey             | Source       |                        |               |                        |               |                    |                                |  |               |  |    |
|----------------------------|--------------|------------------------|---------------|------------------------|---------------|--------------------|--------------------------------|--|---------------|--|----|
|                            | A            | B                      | C             | D                      | E             | F                  | G                              | H  | K             |  |    |
|                            | On Chart No. | On previous survey No. | On U. S. Maps | From local information | On local Maps | P. O. Guide or Map | Orig. Wash. Rand McNally Atlas | Geog. Names U.S. Coast & Geog. Surv. Wash. | U.S.G.T. List |  |    |
| <u>Puget Sound</u> ✓       | *            | ✓                      | ✓             | ✓                      |               |                    | ✓                              | ✓  |               |  | 1  |
| <u>Chambers Creek</u> ✓    | *            | ✓                      |               |                        |               |                    | ✓                              | ✓  |               |  | 2  |
| <u>Cormorant Passage</u> ✓ | *            | ✓                      |               | ✓                      |               |                    | ✓                              | ✓  |               |  | 3  |
| <u>Ketron Island</u> ✓     | *            | ✓                      |               | ✓                      |               |                    | ✓                              | ✓  |               |  | 4  |
| <u>Gordon Pt</u> ✓         | *            | ≠                      |               |                        |               |                    | ✓                              | ✓  |               |  | 5  |
| <u>Gibson Pt</u> ✓         | *            | ✓                      |               |                        |               |                    | ✓                              | ✓  |               |  | 6  |
| <u>Hyde Pt</u> ✓           | *            | ✓                      |               |                        |               |                    | ✓                              | ✓  |               |  | 7  |
| <u>Toliva Shoal</u> *      |              |                        |               | ✓                      |               |                    | ✓                              | ✓  | ✓             |  | 8  |
| <u>Cole Pt</u> ✓           | *            | ✓                      |               |                        |               |                    | ✓                              | ✓  |               |  | 9  |
| <u>Fox I</u> ✓             | *            | ✓                      |               | ✓                      |               |                    | ✓                              | ✓  |               |  | 10 |
| <u>Nisqually Reach</u> *   |              |                        |               | ✓                      |               |                    | ✓                              | ✓  |               |  | 11 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 12 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 13 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 14 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 15 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 16 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 17 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 18 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 19 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 20 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 21 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 22 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 23 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 24 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 25 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 26 |
|                            |              |                        |               |                        |               |                    |                                |  |               |  | 27 |

6460  
 T 671  
 On U. S. Maps  
 From local information  
 On local Maps  
 P. O. Guide or Map  
 Orig. Wash. Rand McNally Atlas  
 Geog. Names U.S. Coast & Geog. Surv. Wash.  
 U.S.G.T. List

Names underlined in red approved by *[Signature]* on 6/12/36

# MEMORANDUM IMMEDIATE ATTENTION

SURVEY  
DESCRIPTIVE REPORT  
PHOTOSTAT OF

No. H **6104**  
No. T

received APR 15 1936  
registered MAY 12 1936  
verified  
reviewed  
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

| ROUTE | Initial        | Attention called to        |
|-------|----------------|----------------------------|
| 20    |                |                            |
| 22    |                |                            |
| 24    |                |                            |
| V 25  | <del>SBW</del> | D. R. pages 4-6            |
| 26    |                |                            |
| V 30  | NR's           | D. R. page 5 <i>Hayden</i> |
| 40    |                |                            |
| 62    |                |                            |
| 63    |                |                            |
| 82    |                |                            |
| 83    |                |                            |
| 88    |                |                            |
| 90    |                |                            |
|       |                |                            |
|       |                |                            |

RETURN TO

|    |  |
|----|--|
| 82 |  |
|----|--|

G. K. Green *May 13-36*



Lac

### TIDE NOTE FOR HYDROGRAPHIC SHEET

September 4, 1936.

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. E. P. Ellis

Plane of Reference  
~~Tide Reducers~~ are approved in  
8 volumes of sounding records for

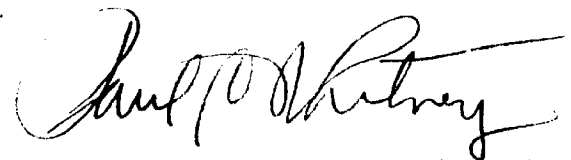
HYDROGRAPHIC SHEET 6104

Locality Nisqually Reach to Fox Island, Puget Sound, Wash.

Chief of Party: Jack Senior in 1935  
Plane of reference is mean lower low water reading  
4.9 ft. on tide staff at Steilacoom  
11.7 ft. below B.M. 1 (1935)

Height of mean high water above plane of reference is 12.4 feet.

Condition of records satisfactory except as noted below: The soundings around Steilacoom Dock as recorded on page 3 of Volume 7 are misleading. The unit is not designated and the decimal point would make it appear that they are given in either fathoms and tenths or feet and tenths, but on closer examination it is found they are given in fathoms and feet and the decimal point is used to separate the two units. The tide reducers were also  $1\frac{1}{2}$  feet in error on this page.



Chief, Division of Tides and Currents.

# Report on H-6104

1. The records are neat and legible and conform to the requirements of the Hyd. Manual. A criticism, however, can be made regarding the inking of the day letter after each position number which was not required. (Hyd. Man. par. 145);

2. The shoreline and <sup>topographic</sup> signals are from T-6447 (1935), T-6451 (1935), T-6454 (1935), and T-6449 (1935).

Signal "Lub" (Lat.  $47^{\circ} 11.6'$  Long.  $122^{\circ} 40'$ ) is a hydrographic signal located by sextant <sup>cuts</sup> and is recorded in Vol. 2, page 8, H-6106 (1935).

3. In general, ~~the~~ crossings are satisfactory.

4. The work was sufficiently developed to complete all of the usual depth curves.

5. The junctions with H-6102 (1935) on the north, H-6106 (1935) on the west, H-6103 (1935) on the northwest are satisfactory.

The junction with H-6108 (1935) on the south will

be considered in the report for that sheet.

6. Except for the following cases, the plotting and plotting was excellent.

Q 79 fm. sq. was plotted as 59 (pro. 81F)

"  $\frac{0}{94}$  " " " " " 94 (" 2g) ✓

" 78 " " " " " 77 (" 84h)

Positions 39j to 43j (5 detached soundings) were erroneously plotted. The wrong left object was used. ✓

### 7. Discrepancies:

In reference to the 17 fathom sounding (16½ in record) pro. 76c, noted in the Description Report, page 5. It was found by reversing the left angle from 39° 34' to 34° 39' <sup>pro. 76c</sup> the sounding involved included in the line between pro. 75c and 77c are in fair agreement <sup>with</sup> the surrounding depths as well as by time. The new position would fall about <sup>110</sup> 150 meters ✓ southerly of the field plotting and would be also in agreement with the "southerly set" currents noted in the record.

In any case, however, the field plotting of the line between positions 75c to 77c is undoubtedly erroneous and is satisfactorily disproved by the additional work on "e" and

"j" days which shows much shallower depths in this area.

In view of the shallower depths of the additional work on "e" and "j" days and the fact that the replotting of the line with the left angle reversed, pp. 76c, would not add materially to the work, as well as to the uncertainty as to what may have happened in the sounding apparatus between positions 75c and 77c, this portion of the line has been omitted on the sheet.

### Remarks:

The two sketches of wharves shown on the sheet were enlarged from the topographic sheets and the soundings shown alongside are recorded in sounding volume, No. 5, page 48, and No. 7, page 3.

Respectfully submitted,

G. Pisegani.

Nov. 3, 1936.

H.S. 6104

POST-OFFICE ADDRESS: 601 - Federal Office Building, Seattle, Washington.

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

*Call?*  
22  
30  
1936 SEP 21 AM 9:54  
80  
9  
ck6

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY  
U.S.C. & G.S.S. EXPLORER

September 14, 1936.

To: Director, U. S. Coast & Geodetic Survey,  
Washington, D. C.

Through: Inspector, U.S. Coast & Geodetic Survey,  
Seattle, Washington.

From: Commanding Officer, U.S.C. & G.S.S. EXPLORER,  
Seattle, Washington.

Subject: Soundings at Steilacoom Dock.

Reference: Director's letter of Sept. 5, 1936, 22 AB,  
1995 EX 4.

The assumption noted in above letter that the soundings referred to in that letter were read in fathoms and feet is correct according to Mr. Weidlich. Mr. Weidlich also states that date and time are correct and that reducers are probably in error as the reducers were those used for boat sheet soundings, the page having been over looked when volume was reduced.

*G. C. Jones*  
G. C. Jones,  
Commanding Officer,  
U.S.C. & G.S.S. EXPLORER.

*Edwin O. Baum*  
FORWARDED ..... 9/16/36  
Inspector Seattle Field Station.  
*Acting*

C O P Y

22-AB  
1995 EX 4

September 5, 1936.

To: The Commanding Officer,  
U. S. Coast and Geodetic Survey,  
Ship EXPLORER,  
601 Federal Office Building,  
Seattle, Washington.

Through: The Inspector, Seattle Field Station.

From: The Director,  
U. S. Coast and Geodetic Survey.

Subject: Soundings at Steilacoom Dock.

There are enclosed herewith copies of two adjacent pages from the sounding volume containing the record of the Launch DELTA'S hydrographic work on October 8, 1935.

You will note on the left-hand page that the soundings were recorded as fathoms and sixths, or in other words, fathoms and feet. On the right-hand page these same soundings were recorded as though they were read to fathoms and tenths and were reduced accordingly.

You will also note that if the date were correct the sounding reducer was in error by 1-1/2 feet.

You will please consult with Mr. Weidlich and furnish this office with any information possible at this late date that will tend to clear up the apparent discrepancies noted. A statement is particularly desired as to whether or not the assumption in this office that the soundings were read in fathoms and feet is correct.

(Sgd.) J. H. Hawley

Acting Director.

Enclosure

cc. Division of Charts  
" " Tides

Section of Field Records.

REVIEW OF HYDROGRAPHIC SURVEY NO. 6104 (1935) FIELD NO. 10

Nisqually Reach to Fox Island, Puget Sound, Washington

Surveyed in 1935, Scale 1:10,000.

Instructions dated March 29, 1934. (Explorer).

Hand Lead and Machine Soundings

3 Point fixes on shore signals.

Chief of Party - Jack Senior

Surveyed by - W. Weidlich

Protracted by - W. Weidlich

Soundings penciled by - W. Weidlich

Verified and inked by - G. Resigari

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except that no approval note by the Chief of Party is contained in the records.

The Descriptive Report is exceptionally complete and satisfactorily covers all items of importance. It is desirable in referring to shoals, rocks, etc., that the latitude and longitude of the feature referred to, be given in preference to a distance or direction from a signal or topographic feature.

2. Compliance with Instructions for the Project.

The survey satisfies the instructions for the project.

3. Shoreline and Signals.

The shoreline and topographic signals originate with T-6447 (1935), T-6451 (1935), T-6454 (1935), and T-6449 (1935.)

The hydrographic signal originates with H-6106 (1935) and the cuts locating same are recorded in vol. 2 of the records for that sheet.

4. Sounding Line Crossings.

No regular system of crosslines was run; however, those that occur in the normal development of the work together with the parallel adjacent lines are in good agreement.

5. Depth Curves.

The usual depth curve may be satisfactorily drawn, including most of the low water curve.

6. Junctions with Contemporary Surveys.

Satisfactory junctions are made with H-6102 (1935) on the north, H-6103 (1935) on the northwest and with H-6106 (1935) on the west.

The junction on the south with H-6108 (1935) will be considered in the review of that survey.

7. Comparison with Prior Surveys.

a. H-499 (1855).

This survey on a 1:10,000 scale has no projection and no stated plane of reference. With the exception of a few minor differences, which may be attributed to weak control and a probable lower plane of reference, the agreement with the present survey is in general satisfactory. It should, however, be superseded by the present survey in future charting.

b. H-1426a (1878) and H-1426b (1878-79).

These surveys on a 1:20,000 scale, together cover the entire area of the present survey. A comparison between them and the present survey shows a good general agreement with the exception of the 62 fathom sounding (not charted), shown on H-1426b (1878-'9) at Lat. 47°09.85', long. 122°39.2', which falls on the present survey in depths of 72 fathoms. The development of this area on the present survey shows a rather flat, uniform bottom with no indications of any shoaling, also all the surrounding soundings on H-1426b (1878-9) show depths of at least 70 fathoms. It is therefore considered that this sounding is 10 fathoms in error and should be disregarded in future charting.

8. Comparison with Chart No. 6460 (New print date, July 20, 1936.)

a. Hydrography.

Within the limits of the present survey the chart is based on surveys discussed in the foregoing paragraph and contains no additional information that needs consideration in this review with the exception of the 4 1/2 fathom sounding at lat. 47°10.25', long. 122°40.2', which apparently originates with H-1426b (1878-'9) but which is charted about 120 meters too far offshore. In its correct position as shown on the original sheet it is in agreement with the present survey.

b. Aids to Navigation.

The locations of the aids to navigation on the present survey are substantially the same as charted.

9. Field Plotting.

The field plotting was excellent.



10. Additional Field Work Recommended.

This sheet is an excellent survey, well planned and developed and no additional work is needed.

11. Superseding Old Surveys.

Within its limits the present survey supersedes the following surveys for charting purposes:

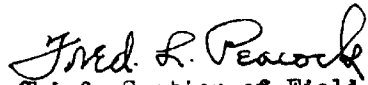
H- 499 (1855) entirely  
H-1426a(1878) in part  
H-1426b(1878-9) "

12. Reviewed by John G. Ladd, Nov. 10, 1936.

Inspected by A. L. Shalowitz

Examined and approved:

  
C. K. Green,  
Chief, Section of Field Records.

  
Fred L. Peacock  
Chief, Section of Field Work.

  
L. O. Polbat,  
Chief, Division of Charts

  
G. Wade  
Chief, Division of H. & T.

Applied to Cht. 6460 June 9, 1938 K.R.