

4573

4573

Form 504 DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY
State: <u>Washington</u>
11-5013
DESCRIPTIVE REPORT.
Sheet No. <u>4573</u>
LOCALITY:
<u>Strait of Juan de Fuca</u>
<u>New Dungeness Bay and</u>
<u>Washington Harbor</u>
<u>1926</u>
CHIEF OF PARTY:
<u>H.A. Cotton</u>

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET NO. 4573

NEW DUNGENESS BAY

Scale 1:20,000

and

WASHINGTON HARBOR ENTRANCE

Scale 1:10,000

June-July, 1926.

INSTRUCTIONS

The work was executed in accordance with the instructions to the Commanding Officer of the Motor Vessel NATOMA dated March Fourth, 1926.

LIMITS

Two revision surveys of areas in the same general locality have been plotted on this sheet for convenience in handling. That of New Dungeness Bay on a scale of 1:20,000 includes the tip of New Dungeness Spit to the fifty fathom curve and all of New Dungeness Bay and Lagoon to the westward of Longitude $123^{\circ} 02' 5$ and northward of Latitude $48^{\circ} 02' 12$. That of Washington Harbor Entrance on a scale of 1:10,000 includes the area between the Nine fathom curve on the outer to the Five fathom curve on the inner side of the entrance.

DEPTH CHANGES-NEW DUNGENESS BAY

The depths generally agree with the previous work. The shoal off New Dungeness spit has extended some Hundred and fifty meters eastward and deepened slightly since the survey of 1882. The Nun buoy was anchored One Hundred ^{and fifty (150)} meters south of the Twenty one fathom spot, the shoalest water found on the tip of the shoal during this examination. General depths of three or four fathoms were found on this shoal with the two fathom curve close to shore except for a thirteen foot spot Seven hundred Seventy five meters Twenty Degrees from the light. Subsequent examination (positions one to ten "j" day) failed to check this Thirteen foot spot. Although the Fourteen and Thirteen foot soundings may have been called a fathom too shoal it is recommended that they be retained on account of the possibility of wreckage from the fish trap nearby.

The highwater line southwest of the light has washed back leaving a spit which bares one hundred meters at low water. Boats should give the south shore a good berth until past the spar buoy 280 meters 213 true from the light. Deep water approaches close to the spit for a quarter of a mile westward of the lighthouse wharf. Waves cut through this place during a northwest storm and high water almost every winter. The shape of the high water line at the tip of the spit is continually varying with the storms.

In the lagoon the average depth (obtained on a raising tide) was seven to eight feet instead of the ten to twelve feet of the previous survey. The lagoon was not considered of sufficient importance to warrant the establishment of a special plane of reference but soundings were taken on a rising tide to err on the safe side as well as to avoid loss of time if the launch grounded. At the entrance where the depths are shoalest the reducers from the light house wharf gauge are considered accurate, most of the soundings here being taken shortly before the turn of the tide. Two to four feet is still the limiting depth but the spots on which the shoalest soundings were obtained are small and due to grass patches which hold the sand inspite of the strong currents. With good local knowledge five feet could be taken through at low water.

DEPTH CHANGES-NEW DUNGENESS BAY Cont.

The shoal water has shifted from the outside to the inside of the east spit.

DEPTH CHANGES-WASHINGTON HARBOR.

The relative positions of the shoals and the general depths are about the same as before but the controlling depth in the main inner channel is 11 to 12 feet instead of 13 to 14 feet as of the previous survey. The extension of shoal water from the west coast about half way between the cannery wharf and Pitship Point seems to have washed somewhat, permitting a straighter course.

ANCHORAGES

Good holding bottom of gray mud is to be had in five to twenty fathoms inside Dungeness Spit. The protection is from westerly seas only.

Protection and good gray mud holding bottom is available anywhere inside the shoal water at the entrance in Washington Harbor.

SURVEY METHODS ADJUSTMENTS

The usual bronze center hand leadline and a hand machine with stranded wire were used from twenty four feet standard motorsailer No 8610. The loss of one of the best leadlines forced the use of a line having a large but constant correction for several days. Signals and control were from third order triangulation and plane table positions with the single exception of signal "Black" a small shelter on a fish trap off Dungeness spit which was located by an observer with three sextant angles while standing on it. The N. gable of Cannery at Washington Hbr. was used for CAN instead of S gable as described in topographic report. An adjustment of the soundings between positions forty three and forty four and fifty one and fifty two ^{at day Washington Harbor} was made due to the recorder putting down the time when the leadsman dropped the lead before the launch had started ahead as noted in the records. The soundings from positions one to nineteen and twenty five to thirty nine "a" day Washington Harbor were rejected because of the uncertainty of tidal reducers obtained from Dungeness wharf gauge for soundings inside the spits in Washington Harbor. Aside from the miscalling of one fathom on and just before position forty five "b" day Dungeness Bay sheet and the questionable reducers for New Dungeness Lagoon as mentioned under depth changes, the work is considered accurate.

DIRECTIONS-WASHINGTON HARBOR

Steer for a point about one fourth mile northwest (true) from the end of the bluff on the east side of the Harbor. Then head for the end of the south spit and follow along it one hundred yards off crossing over towards the cannery wharf and following the west shore not more than a hundred yards off. When abeam the large detached boulder five hundred yards south of the wharf head fifteen degrees to the left of Pitship Point and continue to deep water.

DEPTHS ALONGSIDE WHARVES

Only nine feet is available off the Lighthouse wharf at New Dungeness spit with only six feet at the southeast corner of the wharf.

Eighteen feet is available on the outer face of the long wharf leading out from the town of New Dungeness if approached from the eastward. Fifteen feet and less lies immediately off the west end of the wharf.

Seventeen feet is available along the face of the dammy wharf at the west side of the entrance to Washington Harbor.

J. J. Reading

LIST OF STATISTICS HYDROGRAPHIC SHEET NUMBER _____

DUNGENESS BAY

Date	Letter	Statute Val.	Miles	Positions	Soundings
June 10th	a	1	28.2	155	520
11th	b	1	12.0	105	279
11th	b	2	6.4	41	89
14th	c	2	27.0	137	537
15th	d	2	18.5	128	529
16th	e	2	14.8	74	258
16th	e	3	32.9	159	565
17th	f	3	31.5	177	726
23rd	g	3	4.3	69	228
24th	h	3	4.2	39	223
24th	h	4	14.4	129	682
July 1st	j	4	2.2	35	84
2nd	k	4	4.0	61	341
Total			188.1	1309	5061

WASHINGTON HARBOR

June 9th	a	1	11.5	126	606
18th	b	1	13.3	201	895
July 2nd	c	1	2.0	36	128
2nd	c	2	3.2	40	137
Total			30.0	403	1666

Twenty four foot Motor Sailing Launch No. 8610 used for this work.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Seattle, Washington.

November 19th, 1926

SUPERINTENDENT, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

O. S. Reading
O. S. READING, H. & G. E. Chief of Party.

DESCRIPTION.	POSITION.					Method of determination.	Charts affected.
	Latitude.		Longitude.		Datum.		
	D. M. meters.	D. P. meters.	D. M. meters.	D. P. meters.			
Detached Boulder bare two ft. at H. W.	48 04	963	123 02	771	App. N. A.	Plane Table	6403
A separate list dated September 27th, 1926 has been Forwarded of additional landmarks in the vicinity which are recommended for charting.							

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance. The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstaves and like objects are not sufficiently permanent to chart.

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER
AND REFER TO NO.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

December 18, 1926.

REPORT ON VERIFICATION OF HYDROGRAPHIC

SHEET No. 4573

The sounding records are complete and well kept.

The plotting was excellent.

The time intervals were carefully adhered to in the plotting of the soundings.

The drafting conforms to the general instructions and was exceptionally well done.



H. R. Edmonston.

April 20, 1927.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 4573

Locality: STRAIT OF JUAN DE FUCA

Chief of Party: H. A. Cotton

Plane of reference is M L L W

3.9 ft. on tide staff at Washington Harbor
4.1 ft. do New Dungeness

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks. As noted in the descriptive report, the field party did not erect a staff in the lagoon. Since soundings in this area were taken on a rising tide and New Dungeness reducers used any error in the reducers is on the side of safety. Reducers as entered in the field have been approved as the best available.

Chief, Division of Tides and Currents.

G. Rude

AND REFER TO No. 11-DEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

April 25, 1927.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4573

Strait of Juan de Fuca, Washington

Surveyed in 1926

Instructions dated March 4, 1926 (NATOMA)

Chief of Party, H. A. Cotton.

Surveyed by O. S. Reading.

Protracted by O. S. Reading, T. A. Renton.

Soundings plotted by C. I. Aslakson.

Verified and inked by H. R. Edmonston.

1. The records conform to the requirements of the General Instructions.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and extent of development satisfy the requirements of the specific instructions except that the 32 ft. shoal in Lat. $48^{\circ} 09' 1/2''$, Long. $123^{\circ} 05' 3/4''$ should have been developed.
4. The usual depth curves could be drawn.
5. The field plotting was completed to the extent prescribed in the General Instructions and was well done.
6. There are no adjoining contemporary surveys.

The work in Washington Harbor makes a satisfactory junction with the old survey, H. 1516^a

7. No additional work is necessary except possibly to develop the 32 ft. shoal mentioned in Paragraph 3. Also the 13 and 14 ft. soundings located 25° 770 m. from New Dungeness Lighthouse should be investigated with the light wire drag. There is a possibility of an error of 1 fathom having been made in reading the leadline since a subsequent leadline investigation disclosed not less than 19 feet here. (See Descriptive Report, page 1). The 14 ft. sounding in Lat. $48^{\circ} 08' 910$ m., Long. $123^{\circ} 04' 280$ m. contains indications of shoaler water.

8. The tidal reducers for New Dungeness Lagoon are the best available ones, in the absence of a staff in the lagoon. As the soundings were taken on a rising tide any error will be on the safe side. The soundings were therefore accepted. (See Descriptive Report and memorandum from Tides.)
9. Character and scope of surveying - very good.
Field drafting - excellent.
10. Reviewed by A. L. Shalowitz, April, 1927.

Approved:

Chief, Section of Field Records (Charts)

Chief, Section of Field Work (H. & T.)

11

December 10, 1926.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET NO. 4573

Locality: STRAIT OF JUAN DE FUCA

Chief of Party: H. A. Cotton in 1926.

Plane of reference is MLIW
3.9 ft. on tide staff at Washington Harbor
4.1 ft. -----do----- New Dungeness

For reduction of soundings, condition of records satisfactory
except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A. M. or P. M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

H. A. Cotton

Chief, Division of Tides and Currents.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

4573

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4573

State . . . Washington

General locality . . Strait of Juan de Fuca

Locality New Dungeness Bay & Washington Harbor

Chief of party . . Harold A. Cotton

Surveyed by . . . O. S. Reading

Date of survey . . June-July, 1926

Scale New Dungeness Bay 1:20,000. . Washington Harbor 1:10,000

Soundings in Feet

Plane of reference . . Mean lower low water

Protracted by . . P.A.R.
O.S.R. auto Soundings in pencil by . C.I.A. slaker

Inked by Verified by

Records accompanying sheet (check those forwarded):

Des. report, Tide books, Marigrams, Boat sheets,

Sounding books, Wire-drag books, Photographs.

Data from other sources affecting sheet

Remarks: