7037

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. EX 1148 4 *Office No.* H-7037

LOCALITY

State Washington

General locality Strait of Juan de Fuca

Locality Neah Bay

1945

CHIEF OF PARTY

Roland D. Horne

EXPLORER

LIBRARY & ARCHIVES

DATE JUL 19 1945

B-1870-1 (1)

7037

Form 537
Ed. Dec. 1930

REG. NO. H7037

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. EX 1143

REGISTER NO.

State Washington

General locality Strait of Juan de Fuca

Locality Neah Bay

Scale 1:10,000 1:5,000 Date of survey Dec. 1944 - March, 1945

Vessel EXPLORER

Chief of Party Roland D. Horne

Surveyed by F.B.Quinn & Wm. Weidlich

Protracted by Marion T. Gwinn

Soundings penciled by Marion T. Gwinn

Soundings in fathoms feet Fathoms and Tenths

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by G. B. Woolley

Verified by G. B. Woolley

Instructions dated CS-293 - Sept. 9, 1942, 19

Remarks: Soundings by graphic recorder.

Smooth Sheet & Plotting by the Seattle Processing Office.

U. S. GOVERNMENT PRINTING OFFICE

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H- 7037 (Field No. 1142)
Surveyed December 1944 to March 1945.
Scale 1: 10,000.
Ship EXPLORER - R.D. Horne, Commanding.
Surveyed by W. Weidlich & F.B. Quinn.

PROJECT.

The Project Number is CS-293, Neah Bay.

The Date of the Original Instructions is September 9, 1942.

There are no Supplemental Instructions or Letters.

The Instructions are addressed to Commanding Officer of the Ships EXPLORER, SURVEYOR, WESTDAHL, PATTON. All survey work was accomplished by the Ship EXPLORER.

SURVEY LIMITS AND DATES.

This survey is of the approaches to Neah Bay north to approximate latitude 48° 25' and from longitude 124° 33' on the east to longitude 124° 40' on the west. This report includes both the ship and launch hydrography. The launch hydrography starts at the shore and extends about ½ mile offshore where it joins the ship hydrography.

Field work was started on December 8, 1944 and finished on March 8, 1945. Only two trips, one of two weeks and one of one week were made to accomplish this survey. The first trip being made in December 1944 and the last trip in March 1945. During the months of January and February 1945 the Ship EXPLORER was stationed at Seattle undergoing the annual repairs.

During the trip in December considerable rough weather and some rain was encountered so that it was impossible to finish the project before returning to Seattle. During the trip in March the bay was quite smooth and surveying conditions were much better but rain prevented a full days work each day.

VESSEL AND EQUIPMENT.

All ship hydrography was accomplished by the Ship EXPLORER. The launch hydrography was accomplished by Launch Number 2. The area in which each vessel operated has been defined in paragraph B. The Launch operated from the Ship which anchored in Neah Bay when not engaged in field work.

The turning radius of the ship is about 450 meters at standard speed but this does not apply as sounding lines were run from 200 to 300 meters apart and various methods of turning the ship around at the end of the lines were necessary. The same applies to the launch as sounding lines were run from 20 to 50 meters apart and various methods of turning the launch at the end of the lines were necessary. In general the ship sounded at a speed of 8 to 10 knots and the launch at 5 to 6 knots.

Portable depth recorders, Model 808, were used on both the ship and launch. The numbers of these recorders are listed in the sounding volumes. The hydrophones were inside the hull in each case.

TIDE AND CURRENT STATIONS.

The standard tide gage at Neah Bay was used for all soundings on this survey. No correction for time or height was necessary within the limits of this survey. This tide gage has been in operation at the same location for many years.

No current stations were occupied within the limits of this survey.

CONTROL STATIONS.

See the descriptive reports for the two topographic sheets field No. AA-42, scale 1:5,000 and A-42, scale 1:10,000 for the triangulation and topographic control of this survey. T-6984a+b (1942-44)

SHORELINE AND TOPOGRAPHY.

The shoreline and topography was all surveyed by the plane table method. It was originally surveyed in 1942 by Lt. Comdr. G.R. Shelton. He operated by truck from Seattle. As the hydrography was not started until December 1944, it was necessary to revise the shoreline and locate some additional topographic signals before starting the hydrography. The revision of the topo in 1944 was surveyed by Lieut. H.S. Cole.

When the survey was finished in March 1945 some of the topo signals had been blown away. Enough signals remained so that the hydrographer was able to locate the extra signals needed by sextant angles. These sextant angles are found in the sounding volumes as listed. They are considered accurate for all charting purposes.

Because of rocky beach, kelp, and moderate seas it was impossible to carry the launch sounding lines close enough to actually locate the low water line.

SOUNDINGS.

All soundings were taken with the portable depth recorder, Model 808. A number of ~~shoal~~ soundings were checked with the lead line where necessary as explained in the sounding volumes. No unusual methods were used for obtaining soundings.

CONTROL OF HYDROGRAPHY.

All positions for control of hydrography were taken with sextant angles and plotted with the standard celluloid and steel three arm protractor, using signals on shore.

ADEQUACY OF SURVEY.

The survey is complete and adequate to supersede all prior surveys for charting, with addition of 2 shoal soundings and inshore rock detail

There is a 5½ fathom sounding at latitude 48° 23.00', longitude 124° 35.36'. Adjacent soundings are also slightly deeper showing definitely there is an area here which is shoaler than the surrounding area. The existence of this shoal was not known until the soundings were plotted on the boat sheet at the end of the days work. Stormy weather prevented better development of this shoal before returning to port. As this area is only about 200 meters off shore from a reef which bares 5 feet at mean LLW it is not near the approach to the harbor and would naturally be missed by vessels of any size. For this reason it is not considered important enough to warrant another trip to Neah Bay by the Ship EXPLORER for further development of this shoal. Sounding lines in the area are quite close together but a shoaler sounding might have been obtained with further development. Because of the other shoal indications adjacent to this one sounding it is known the shoal does exist and is not a stray on the fathogram.

There is a very small area at the extreme western inshore area where soundings were not obtained. This area should be developed at a later date when adjacent surveys are made. (Review)

There is an old piling charted (not on survey) at latitude 48°-22.79'N, longitude 124°-36.52'W. From H-5185 (1934) carried forward

There is a ~~12~~ 11 ft. (1⅘ fm.)-foot spot at latitude 48°-22.48'N, longitude 124°-34.28'W, near the offshore end of a shoal extending northwestward from the east end of the third beach east of the harbor entrance channel. This was reported to Washington on Form 786 on March 16, 1945.

Chart Letter 185 (1945) FBL

Seattle Processing Office Notes

EX 1142

Neah Bay, Washington

Datum-

The smooth sheet is on the datum - NA 1927, adjusted. The topographic sheet depends on field computations of the 1942 triangulation. There is about two meters datum difference between the adjusted and unadjusted G.Pl's. See report for EX 5142, the survey of Neah Bay inside the breakwater. This adjustment was applied to topographic signals.

Control-

Triangulation of 1893, 1942, and 1944. Topographic signals and shoreline are from A-42 T-6384 and AA-42. These topographic projections were prepared on one plate in 1942, but the survey was not completed until 1944. Cuts to hydro signals are in Vol. 2.

Aids to Navigation-

Waada I. Lighthouse and Neah Bay Light are shown in triangulation symbols at the north and south ends of Waada Island.

Neah Bay Lighted Red Bell Buoy No. 2, flashing white light, is at Lat. 48° 23!63 Long. 124° 36!44, half a mile NNW of Waada Island.

Lighted Black Bell Buoy No. 1, flashing white light, is on the south side of the entrance to the inner harbor at Lat. 48° 22!61 Long. 124° 35!23.

Reef at Lat. 48° 22!96 Long. 124° 35!52

A boat sheet note says "reef bares 5 ft. at MLLW." Topographic sheet AA-42 gives the height as 2 ft. above MHW. The boat sheet height would be 2 ft. below MHW. The top of this reef or ledge was seen by the topographer for a considerable length. Guided by Par. 7827b of the Hydrographic Manual, the height has been shown as estimated by the hydrographic party.

Attention is called to the following depths-

Latitude	Longitude	Position	Depth fms.	Remarks
48° 23!76	124° 38!90	142-143 b	5.8	Add. development desirable along this shoal. This is the outermost shoal appear ing on the sheet. (concur)
48 23	124 37.5	27-28 a	3	Outlying danger on west side of outer part ✓ of Neah Bay
48 23.3	124 36.15	86-87 b	3.6	Shoals NNW of Waada ✓
48 23.37	124 36.20	7-8 b	5.8 5	Island.
48 23.0	124 35.34	58-59 e	5.8 5	E. of Waada I.
48 22.88	124 35.44	27 c	0.3	on long reef parallel to Waada I. on east side. ✓
48 22.55	124 35.10	30-31 c	~~0.1~~	-Dangers along south (reef)
48 22.52	124 34.82	55-56 e	2.8 ~~1.9~~ error	-shore approaching
48 22.48	124 34.26	52-53 d	1.8	-inner harbor.
48 22.48	124 35.40	4 c	0.8	S. side entrance to inner harbor.
48 22.48	124 34.8	55-56 d	2.5	

EX 1142

Neah Bay, Washington

STATISTICS

Date	Day Letter	Volume	Vessel	Positions	Stat.Mi. Sdg.Line	Soundings H.L.	Soundings Wire
1944							
Dec. 11	a	1	Lch. #2	160	23.9	3	
Dec. 12	b	1	"	205	32.4	1	
Dec. 13	c	2	"	44	10.5		
Dec. 14	d	2	Lch. #1	85	10.5		
1945							
Mar. 6	e	2	Lch. #2	139	18.2	1	
Dec. 11,1944	A	3	EXPLORER	193	91.7		1
Dec. 12	B	3 & 4	"	124	42.5	10	
Mar. 6, 1945	C	4	"	61	17.5		
				1011	247.2	15	1

Area - Square Statute Miles --- 11.2

EX 1142

Neah Bay, Washington

TIDAL NOTE

Tide reducers from the standard automatic gage at Neah Bay, which has been in operation for many years. No corrections applied for time or height.

Latitude	48° 22'
Longitude	124 37

EX 1142

Neah Bay, Washington

Geographic Names pencilled on Smooth Sheet

Strait of Juan de Fuca

Neah Bay

Washington

Waada Island

Baada Point

Koitlah Point

Respectfully submitted,

Edgar E. Smith

Edgar E. Smith
Cartographic Engineer
Seattle Processing Office

Approved and Forwarded,

F. H. Hardy

F. H. Hardy
Officer in Charge,
Seattle Processing Office.

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

August 8, 1945.

~~Division of Hydrography and Topography~~:

Division of Charts: Attention; H. W. MURRAY

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 7037

Locality Neah Bay, Strait of Juan de Fuca.

Chief of Party: A. D. Horne in 1944-45.
Plane of reference is mean lower low water, reading
2.1 ft. on tide staff at Neah Bay
19.1 ft. below B. M. 8

Height of mean high water above plane of reference is 7.3 feet.

Condition of records satisfactory except as noted below:

E. F. Green
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 154327

GEOGRAPHIC NAMES

Survey No. H7037

Name on Survey	On Chart No. A	On previous survey No. B	On U. S. quadrangle Maps C	From local information D	On local Maps E	P. O. Guide or Map F	Rand McNally Atlas G	U. S. Light List H	K	
Strait of Juan de Fuca									U.S. 6 B	1
Neah Bay		(location of tide staff)							"	2
Waada Island									"	3
Koitlah Pt.										4
Baada Pt.									"	5
First Beach										6
Second Beach										7
Third Beach										8
										9
										10
										11
										12
										13
										14
										15
										16
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										24
										25
										26
										27

Names underlined in red approved
by L. Hecker 7/25/46

M 234

H7037

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. .....

Records accompanying survey:

Boat sheets ..3..; sounding vols. ..5..; wire drag vols. ....;

bomb vols. .....; graphic recorder rolls ..2..;

special reports, etc. .....

.....

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

Number of positions on sheet		1010.
Number of positions checked		..60.
Number of positions revised		...2.
Number of soundings recorded		8080 (approx 90% plotted)
Number of soundings revised (refers to depth only)		...10
Number of soundings erroneously spaced		...15
Number of signals erroneously plotted or transferred		...0.
Topographic details	Time	...6. hrs.
Junctions	Time	...2. hrs.
Verification of soundings from graphic record	Time	..12. hrs.

Verification by G. B. Woolley ...Total time 87. hrs Date July 29, 1946

Review by P. T. Jordan ..... Time .25. Date July 24, 1946

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. 7037

FIELD NO. EX 1144

Washington, Strait of Juan de Fuca, Neah Bay
Surveyed in Dec. 1944 and Mar. 1945 Scale 1:10,000
Project No. CS-293

Soundings:

808 Fathometer

Control:

Three-point fixes on shore signals

Chief of Party - R. D. Horne
Surveyed by - F. B. Quinn and W. Weidlich
Protracted by - M. T. Gwinn
Soundings plotted by - M. T. Gwinn
Verified and inked by - G. B. Woolley
Reviewed by - G. F. Jordan, July 24, 1946
Inspected by - H. W. Murray

1. Shoreline and Control

Shoreline and control originate with T-6984a and T-6984b of 1942-44. Rocks, low water detail and shoreline in the southeast part of the survey have been transferred from T-4633 (1931).

2. Sounding Line Crossings

Excellent.

3. Bottom Configuration

The bottom in this area slopes smoothly from the rocky and kelp-laden shore out to 50 to 70-fm. depths except for occasional shoals within one-half mile of the shoreline.

Offshore depth curves are satisfactory. Inshore curves are incomplete because of heavy kelp and breakers. Second Beach and Third Beach, however, are apparently free from kelp or dangers.

3. Junctions

Soundings on H-7036 (1944-45) which join the present survey in the entrance to the harbor of Neah Bay are 2 to 3 ft. deeper. There are no other contemporary surveys in this project.

4. Comparison with Prior Surveys

a. H-1881 (1888) on a scale of 1:10,000

This prior survey covers the inshore area of the present survey west of Waada Island. Weak control on this survey causes disagreements in hydrography.

This survey is entirely superseded. Mention, however, is made of the 5-ft. prior sounding (chart 6266) at lat. 48° 23.0', long. 124° 36.1'. This 5 falls in present 18-ft. depths and should be disregarded. This sounding is one of several other prior soundings which disagree with present depths.

b. H-3894 (1916) on a scale of 1:10,000

This prior survey overlaps the present survey in the entrance to Neah Bay. The agreement in depths is fair. However, the present survey is adequate and supersedes the prior survey except for the 1.3 fm. sounding which has been carried forward at lat. 48° 22.58', long. 124° 35.18'.

c. H-5155 (1931) scale 1:20,000; H-5148 and H-5157 of 1931, scale 1:40,000

These recent surveys cover the offshore area of the present survey and show very good agreement. However, the present survey on a scale of 1:10,000 develops the area more intensely and with the addition of a pile, five sounding and a few rocks which have been carried forward, is adequate for charting purposes.

The 28-fm. sounding (172 ft. on chart 6266) on H-5155 at lat. 48° 23.29', long. 124° 34.55', where it falls in present 37-fm. depths, should be disregarded. The sounding is considered to be a 10-fm. error.

5. Wire Drag Surveys

H-7044 (1945)WD makes a small overlap in the harbor entrance. No conflicts exist between effective drag depths and the present survey.

6. Comparison with Chart 6266 (Latest print of Feb. 2, 1946)
Chart 6265 (Latest print of July 6, 1946)
Chart 6102 (Latest print of April 6, 1946)
Chart 6300 (Latest print of April 6, 1946)

a. Hydrography

Charted hydrography originates principally with surveys discussed in the preceding paragraphs. Special mention, however, is made of the following:

(1) The 11-ft. sounding charted from the present survey before verification at lat. 48° 22.5', long. 124° 34.8', (chart 6266) results from a 1-fm. error in reducing the sounding. The correct sounding is 17 ft. (2.8 fm.).

(2) The 2½-fm. sounding on chart 6265 at lat. 48° 22.62', long. 124° 35.25' should be disregarded. This sounding is from H-7044 (1945)WD before verification and is an error resulting from smooth plotting a drag grounding on the anchor chain of a navigation buoy.

b. Aids to Navigation

Charted aids to navigation agree with aids located on the present survey and satisfactorily mark the features intended.

The newly found 1.8-fm. (11 ft.) shoal at lat. 48° 22.48', long. 124° 34.27' is unmarked. Lesser depths may exist inasmuch as the shoal is undeveloped.

7. Condition of Survey

a. Sounding records and descriptive report are complete in all detail.

b. The smooth plotting was very good.

8. Compliance with Project Instructions

Shoals were not developed as directed in paragraph 12 of the Instructions.

9. Additional Field Work

The following additional field work is desired:

a. Investigate for least depths of the 1.8-fm. shoal at lat. 48° 22.48', long. 124° 34.27' and develop shoreward the ridge outlined by the 6-fm. curve.

b. Investigate for least depth the 5.5-fm. shoal at lat. 48° 23.0', long. 124° 35.35'.

c. Furnish hydrographic detail inside the present 5-fm. curve off the north end of Waada Island.

d. Develop out to the 10-fm. curve the ridge extending offshore from the 1.6-fm. sounding at lat. 48° 23.6', long. 124° 38.85'.

e. Develop the low water and 1-fm. curves at Second Beach and Third Beach in the vicinity of lat. 48° 22.2', long. 124° 34.5'.

f. Investigation of the following:

3-fm. sounding at lat. 48° 23.00', long. 124° 37.52'.
2-fm. sounding at lat. 48° 23.20', long. 124° 37.85'.
Pile carried forward from H-5155 (1931) at lat. 48° 22.79', long. 124° 36.52'.

After completion of ad.wk. it may be necessary to transfer supplementary low water detail from T-4633. Transfer should also be made to T-6984. RHC 4/28/47

Examined and approved:

Robert. W. Knox
Chief, Nautical Chart Branch

Casper M. Dugin
Chief, Chart Division

Carl O. Heaton
Chief, Section of Hydrography

Raymond L. Eyman
Chief, Division of Coastal Surveys

NAUTICAL CHARTS BRANCH

SURVEY NO. H7037

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
7/27/45	6266	J.P. Walker	Before ~~After~~ Verification and Review Partially
8/6/45	6265	Streeter	Before ~~After~~ Verification and Review Partially
8/22/47	"	[illegible]	After V&R (applied in part thru Ch6266) Complete.
8/14/47	6300	Pisegari	Before ~~After~~ Verification and Review No corrections
4/10/47	6300	H.E. MacEwen	after V+R. added a few odgs. Fully applied.
29 July 47	6266	Aaron Nichols	~~Before~~ (After) Verification and Review Completely applied
2/2/48	6102	S.G. McGann	~~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.