

8242

Diag. Cht. No. 6102-2.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WCSP-1455 Office No. H-8242

LOCALITY

State Washington

General locality Pacific Coast

Locality Off Quillayute River

1955

CHIEF OF PARTY

H.G. Conerly

LIBRARY & ARCHIVES

DATE August 4, 1958

USCOMM-DC 5087

8242

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.

REGISTER No. H-8242

Field No. WCSP-1455

State Washington

General locality Pacific Coast

Locality Off Quillayute River

Scale 1:10,000 Date of survey July - August 1955

Instructions dated 7 May 1955

Vessel Launch 160

Chief of party Horace G. Conerly

Surveyed by Horace G. Conerly

Soundings taken by fathometer, ~~graphic recorder~~, hand lead, ~~etc~~

Fathograms scaled by A. W. B.

Fathograms checked by Various

Protracted by C. R. Lehman

Soundings penciled by C. R. Lehman

Soundings in fathoms ~~feet~~ at MLLW MLLW

REMARKS:

HWB

-72

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SURVEY

SHEET NO. WCSP 1455 - REGISTRY NO. H-8242 - *The Boat sheet previously Bp 52976*

PROJECT 1379

SCALE 1:10,000

HORACE G. CONERLY, CHIEF OF PARTY

PROJECT

Instructions are for a large scale survey of the area for the construction of a large scale insert on the existing chart of the North Coast of Washington. *Cl 6102 - insert of Quillayute River Entrance*

SURVEY LIMITS AND DATES

The sheet was to make a junction with the larger scale sheet of the *H-8241(195)* Quillayute River and its entrance, and to cover the approaches to the river.

Work began in July and was completed in August 1955. ✓

VESSEL AND EQUIPMENT

Launch CS 160 was used for all the hydrography. Fish units were mounted in the keel and an 808 type fathometer was used for all but a few handlead soundings on various shoals.

TIDE AND CURRENT STATIONS

For tide reducers a tide gage was maintained at La Push, Washington. The staff reading of MLLW was 4.4 feet. ✓

No current stations were observed in the area of the survey. ✓

SMOOTH SHEET

The smooth sheet is to be made and plotted in the Seattle Processing Office. ✓

CONTROL

- 1 - Previously established triangulation ✓
- 2 - Negatives of Photo Manuscripts
- 3 --Hydro Cuts shown in the volumes
- 4 - A few computed theodolite cuts

SHORELINE AND TOPOGRAPHY

Shoreline for the boat sheet and smooth sheet was from negatives of T-11488, T-11490 and T-11491.
(1958) (1958) (1958)

SOUNDINGS

Soundings were taken with 808 type fathometers. A separate fathometer report is being forwarded to Washington but an abstract of corrections is part of this report.

CONTROL OF HYDROGRAPHY

For fixing the position of the launch sextant angles were used throughout.

ADEQUACY OF SURVEY

For the purpose of the survey it is considered adequate. There is a good survey of the approach to the Quillayute River

Quillayute Neale → South of H-8242

In the area around the "Giants Graveyard" and NW of James Island it is impossible to tell if the shoaler soundings have been found without a wire drag. Nearly all the time the survey party was in the area there was some sort of animal or plant life in the water that made it impossible to see more than 8 or 10 feet in the water at any time.

The rocks are very steep sided and small on top and it would be possible to pass very close to a rock with no indication of it on the fathogram. (The 13 foot sounding 3/4 mile NW of James Island is an example with a sounding line on a day passing almost over it with very little sign.) Visible rocks are all very steep sided.

South of H-8242 according to Coast Pilot

Kelp was also apparently just beginning to grow up from the bottom. In the area west and SW of the "Giants Graveyard" and west and NW of James Island it was in some cases impossible to tell if the sounding was from kelp or bottom. None of the kelp showed on the surface but when a leadline was dropped in the area it came back with signs of kelp.

CROSSLINES

Enough crosslines were run to comply with the instructions. Some of the crossings are poor but it is due to the very steep sided shoals and rocks in the area. Those over level bottom agree closely.

COMPARISON WITH PRIOR SURVEYS

The prior survey was by handlead and wire and was not much more than a reconnaissance survey.

1 - The height of the rock awash at Lat. $47^{\circ} 54.85'$ and Longitude $124^{\circ} 39.50'$ does not agree with the survey on H-5069. At the time the position was determined the launch was very close to it and it is believed the estimated distance below the surfact is accurate. The hydrographer saw the rock on 24 July at 1000 and it did not appear to be above the surface but just awash at a minus 0.6 foot tide. *(1j-2j-3j) ✓* Accepted *(0) (P. 112)*

2 - The sounding shown on position $11 m$ of the new survey 0.20 miles SSE of KEEN is not as shoal as the one shown on H-5069 but the launch was run back and fourth on range from 2 to five meters apart until the whole area was covered but nothing shoaler or as shoal could be found. Breakers were seen there on a previous day. *Lat. $47^{\circ} 52.54'$ - Long $124^{\circ} 37.91'$ - $13 fm$* Accepted *13 fm* *Depth over rock estimated from approximately 200 meters distant on H-5069*

3 - In other areas soundings were much more numerous and shoaler soundings were found than those shown on H-5069. *(1930)*

4 - There is little difference between this survey and that shown on the photo manuscripts. The only difference of any importance is discussed under the heading of "DANGERS AND SHOALS".

COMPARISON WITH CHART

Chart 6102 is of a small scale and is not in enough detail to make a comparison with this survey. ✓

DANGERS AND SHOALS

1 - Many boats travel through the channel just east of topo signal TIP. The photo manuscript shows five sunken rocks in the part through which they pass just west of the rock that bares 4 foot at MLLW. Unless they were actually seen on the photographs there is no way, except by wire drag, to prove or disprove their existance. There was a very strong range available and the launch was run back and fourth over an area that should include all of them, but there was no indication of any but the one where a sounding was obtained on position 76 m. *At the same time the fathometer was going all personnel but the coxswain were outside looking for them. The water was colored and visibility was not too good but it is believed that before they are charted the photographs should be very closely examined.* *On reexamination of these photos this includes the ~~were deleted~~ this includes the*

2 - The rocks in the area are so steep sided and sharp that the sea seldom breaks on them, *even* sometimes in heavy swells. It is especially true of the three foot rock at Latitude $47^{\circ} 55.40'$ Longitude $124^{\circ} 39.50'$ which was never seen to break. *rk at 76m!*

Plotted
O^ERK

AIDS TO NAVIGATION

Fixed aids to navigation located in this area are forwarded under separate cover on Form 567.

APPLICABLE DATA

- 1 - Triangulation forwarded to Washington Office and a list of G.Ps. forwarded to the Seattle Processing Office.
- 2 - Special Fathometer Report forwarded to Washington Office and an abstract of corrections included with this report.
- 3 - Photo Manuscripts now at Seattle Processing Office.
- 4 - Photos forwarded to Washington Office.
- 5 - Tidal levels, marigrams etc. forwarded to Washington Office.
- 6 - Bathograms forwarded to Processing Office at Seattle.
- 7 - Boat Sheet forwarded to Washington Office with a request that it be forwarded to Seattle Processing Office.
- 8 - Blue-line Prints forwarded to Seattle Processing Office.

Submitted

Horace G. Conerly
Horace G. Conerly
Commander, USC&GS
CinC., West Coast
Shore Party

APPROVAL SHEET

HYDROGRAPHIC SHEET WCSP-1455 REG. H-8242

The records have been inspected and are approved.

Horace G. Conerly
Horace G. Conerly
Commander, USC&GS
OinC., West Coast
Shore Party

COMBINED CORRECTIONS FOR FATHOMETER 152 SPX

WHEN BEING USED IN LAUNCH CS 160

SEASON 1955

"a" Scale		"b" Scale		"c" Scale		"d" Scale	
Fathometer Reading	Corr'n	Fathometer Reading	Corr'n	Fathometer Reading	Corr'n	Fathometer Reading	Corr'n
2.6 - 5.2	- 0.6						
- 8.6	- 0.4						
- 17.7	- 0.2						
- 34.7	0.0						
- 40.0	+ 0.2	39.1	+ 1.1				
- 45.0	+ 0.4	44.1	+ 1.3				
- 47.9	+ 0.6	47.0	+ 1.5				
- 50.1	+ 0.8	49.2	+ 1.7				
- 52.2	+ 1.0	51.3	+ 1.9				
- 54.0	+ 1.2	53.1	+ 2.1				
- 55.9	+ 1.4	55.0	+ 2.3				
- 57.5	+ 1.6	56.6	+ 2.5				
-59.6	+ 1.8	58.7	+ 2.7				
		61.2	+ 2.9				
		63.7	+ 3.1				
		66.7	+ 3.3				
		70.1	+ 3.5	72.1	+ 1.5		
		73.5	+ 3.7	75.5	+ 1.7		
		77.3	+ 3.9	79.3	+ 1.9		
		81.9	+ 4.1	83.9	+ 2.1		
		85.9	+ 4.3	87.9	+ 2.3		
		91.0	+ 4.5	93.0	+ 2.5		
				98.3	+ 2.7		
				133.6	+ 2.9	136.8	- 0.3
						164.3	- 0.1
COMBINED CORRECTION WHEN SOUNDING IN FATHOMS WITH INITIAL SET AT 0.0 FM.							
"a" Scale							
Fathometer Reading (Fm.)	Corr'n (Ft.)						
14.5-15.3	+ 6.6						
-16.2	+ 6.8						
-22.1	+ 7.0						
-30.0	+ 7.2						

COMBINED CORRECTIONS FOR PATHOMETER 154 SPI

WHEN BEING USED IN LAUNCH CS 160

SPASCH 1955

"a" Scale		"b" Scale		"c" Scale		"d" Scale	
Pathometer Reading	Corr'n	Pathometer Reading	Corr'n	Pathometer Reading	Corr'n	Pathometer Reading	
9.9	- 0.3						
9.6	- 0.6						
21.6	- 0.6						
31.6	- 0.2						
40.0	0.0	39.4	+ 0.6				
45.0	+ 0.2	44.4	+ 0.8				
50.3	+ 0.4	49.7	+ 1.0				
53.1	+ 0.6	52.4 ⁵	+ 1.2				
55.8	+ 0.8	53.2	+ 1.4				
57.5	+ 1.0	56.4 ⁹	+ 1.6				
59.9	+ 1.2	59.3	+ 1.8				
FIX		61.5	+ 2.0				
		63.4	+ 2.2				
		65.3	+ 2.4				
		68.6	+ 2.6	70.3	+ 0.9		
		71.7	+ 2.8	73.4	+ 1.1		
		77.3	+ 3.0	79.0	+ 1.3		
		81.3	+ 3.2	83.0	+ 1.5		
		86.3	+ 3.4	88.0	+ 1.7		
		92.4	+ 3.6	94.1	+ 1.9		
				112.9	+ 2.1	114.5	+ 0.5
				161.1	+ 2.3	162.7	+ 0.7

SIGNALS USED

ON HYDROGRAPHIC SHEET WCSP 1455 - REG. NO. H-8242

Name	Source
Aqua	T-11488 Also Form 524
Bat	47 56 16.972 Computed Theodolite Cuts. See 124 40 02.780 Report Sheet WCSP 05155 Reg. H-8241.
Cam	Hydro. Volume 8
Cake	47 55 55.976 Computed Theodolite Cuts. See 124 41 01.277 Report Sheet WCSP 05155 Reg. H-8241.
Egg	47 53 07.514 Computed Theodolite Cuts. See 124 38 21.450 Report Sheet WCSP 05155 Reg. H-8241.
Font 2	FONT 2 1954
Hid	T-11490
Hub C	47 54 37.933 Computed Theodolite Cuts. See 124 38 27.514 Report Sheet WCSP 05155 Reg. H-8241.
Jam	JAMES ISLAND LIGHT 1954
Jap	47 56 24.055 Computed Theodolite Cuts. See 124 38 53.605 Report Sheet WCSP 05155 Reg. H-8241.
Keen	T-11490 Also Form 524
Log	LOG 2 1954
Look	TOWER, LOOKOUT, U.S. COAST GUARD QUILLAYUTE RIVER 1954
Mon - 2 + 00	MON - 2 + 00 (USED) 1955
Mon 21	MON 21 (USED) 1955
Out	T-11488 No. 8802
Pin	T-11491 No. 9104
Por	T-11490 No. 9001
Pal	Hydro Volume 1, Page 4
Poi	T-11488
Snag	Hydro Volume 5 and 8

SIGNALS USED

(CONTINUED)

Name	Source		
Spoon	47 53 124 37	11.460 46.293	Computed Theodolite Cuts. See Report Sheet WCSP-05155 Reg. H-8241.
Stump	Hydro Volume 1, Page 4 and 5		
Tip	47 53 124 38	07.330 06.182	Computed Theodolite Cuts. See Report Sheet WCSP 05155 Reg. H-8241.
Top	T-11488 No. 8023		
Try	47 55 124 38	01.902 15.120	Computed Theodolite Cuts. See Report Sheet WCSP 05;55 Reg. H-8241.
Three	T-11490		
Yel	Hydro Volume 1, Pages 4 and 5		

STATISTICS FOR HYDROGRAPHIC SURVEY

FIELD NO. 1455 (1955)

Vol.No.	Day Letter	Date	H.L. Sdgs.	No. Pos.	Stat.Miles Sdg.
1	a	20 July		175	15.0
2	b	21 July		159	14.1
2 & 4	d	24 July		236	36.3
3	c	22 July		154	18.6
5	e	25 July		167	22.3
6	f	27 July		195	17.0
7	g	28 July		40	3.4
7 & 8	h	3 August		216	12.9
8	j	4 August		19	0.7
8	k	6 August		140	10.3
9	l	7 August		104	10.8
9 & 10	m	11 August	6	132	8.3
10	n	12 August		135	12.3
TOTALS			6	1,872	182.5

Total area 7.3 square statute miles

PROCESSING OFFICE NOTES H-8242

SMOOTH SHEET

The smooth projection was hand constructed by the Seattle Hydrographic Processing Unit using the new templet method of construction. This was checked using standard methods.

ADEQUACY OF SURVEY

The survey appears complete and adequate for charting except for the uncertainty of depths in the areas north and west of James Island and west and southwest of the "Giants Graveyard." ⁽¹⁹⁵⁵⁾ 75 south of H-8242 according to Coast Pilot

The junction with H-8241 has not as yet been compared but will be when that sheet is completed. - Junction checked.

CROSSLINES

The crossings have been rescanned and it is believed that they are now in agreement. Most of the crossing differences were due to ocean swells. ✓

COMPARISON WITH PRIOR SURVEYS

This survey has been compared with the following surveys:

H-4396	1/10,000	1924	✓
H-5069	1/20,000	1930	✓

The agreement is generally good except that some shoaler depths were found on the new survey that were missed on the prior surveys. ✓

DANGERS AND SHOALS

In addition to the items mentioned by the hydrographer two other rocks appear to merit attention. ✓

A rock awash symbol ^{ok.} was used at Lat. 47° 52' 52" N Long. 124° 37' 30" W, position 4m, instead of the two sunken rock symbols used on the photo-topo sheet, T-11491. ✓

At Lat. 47° 52'.15 N., Long. 124° 38'.22 W. is a sunken rock symbol. This may or may not constitute a danger to navigation. At the point of the sounding the fathometer was on the "C" scale in feet when the launch went over a pinnacle with a depth of something considerably less than 65 feet. Position 78-79d. No further development was made over this area. inked 10 fm sda per R.H.C. ✓

GEOGRAPHIC NAMES

Some confusion appears to exist in the placement of the name QUILLAYUTE NEEDLE. Chart 6102 and survey H-5069 call the rock on which

Accepted position at Station "Keen" according to "Heck" + Coast Pilot

T-11490

station ~~KEEN~~ is located QUILLAYUTE NEEDLE. T-~~11491~~ show it to be at
Lat. 47° 53'.12 N., Long. 124° 38'.35 W. ✓

Respectfully submitted,

William M. Martin
William M. Martin
Supervisory Cartographer

APPROVED & FORWARDED:

E. H. Kirsch
E. H. KIRSON, CAPTAIN, C&GS
SEATTLE DISTRICT OFFICER

GEOGRAPHIC NAMES ON H-8242

HUNTINGTON ROCK

JAMES ISLAND

LA PUSH

*OK
(Both decision on a word)
B.G.N. 7/9/59*

OLYMPIC PENINSULA

PACIFIC OCEAN

~~QUILLAYUTE NEEDLE~~ *← Keep*

QUILLAYUTE RIVER

RIALTO BEACH

STRAWBERRY BAY

Tea Whit Head

Cake Rock

DIVISION OF CHARTS

REVIEW SECTION -- NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8242

FIELD NO. WCSP-1455

Washington - Pacific Coast - Off Entrance to Quillayute River

SURVEYED: July - Aug. 1955

SCALE 1:10,000

PROJECT NO. 1379

SOUNDINGS: Fathometer
Leadline

Control: Sextant fixes
on shore signals

Chief of Party ----- Horace G. Conerly
Surveyed by ----- Horace G. Conerly
Protracted by ----- C. R. Lehman
Soundings plotted by ----- C. R. Lehman
Verified and inked by ----- F. Saulsbury
Reviewed by ----- H. W. Burgoyne
Inspected by ----- R. H. Carstens

DATE 6/10/60

1. Shoreline and Control

The shoreline originates with reviewed air photographic surveys T-11488, T-11490, and T-11491 (1954-58).

No contemporary topographic surveys cover two islands at Lat. $47^{\circ}55.95'$, Long. $124^{\circ}41.0'$ and Lat. $47^{\circ}56.30'$, Long. $124^{\circ}40.05'$. The high-water line for these two islands was carried forward from T-4448 (1929).

The sources of control are given in the Descriptive Report.

2. Sounding Line Crossings

The depth at sounding line crossings are in fair agreement considering the rough bottom.

3. Depth Curves and Bottom Configuration

The standard depth curves are adequately delineated. Steep-sided pinnacle rocks contribute to a very irregular bottom.

4. Junctions with Contemporary Surveys

Present survey depths on the east are in adequate agreement with junctional depths on survey H-8241 (1955). A butt

junction was made at the project limits on the north, west, and south, with H-5069 (1930). In the southwest, a junction was made with H-5110 (1930) where the present survey extended west of H-5069.

5. Comparison with Prior Surveys

H-2096 (1891)	1:40,000	H-4396 (1924)	1:10,000
H-2203a (1894)	1:40,000	H-5069 (1930)	1:20,000

The prior surveys listed above cover the area of the present survey. The 1891-1894 surveys have already been discussed in the review report of H-5069 (1930) and will not be considered further.

The survey of 1924 covers a very small area south of James Island. A comparison of this prior survey with the present survey reveals only minor differences of 2 to 3 feet in depths ranging from 35 to 60 feet.

A comparison between H-5069 and the present survey reveals a great many more shoal soundings on the present survey because of the closer spacing of sounding lines and the use of the fathometer instead of hand lead for depth determination. With the exception of the shoaler soundings on the present survey, there are only minor differences of 2 to 3 feet in depth existing between the two surveys.

A shoal sounding of 4.6 fathoms at Lat. $47^{\circ}52.05'$, Long. $124^{\circ}37.61'$, was brought forward from H-5069 (1930) to the present survey.

There is no evidence on the present hydrographic and topographic surveys of the group of rocks at Lat. $47^{\circ}52.75'$, Long. $124^{\circ}38.25'$, originating with the 1894 survey and carried forward on H-5069 (1930). Examination of the survey records of H-2203a revealed that the survey position determining the location of the rocks was in error and plotted incorrectly. The position plots in the foul area adjacent to Huntington Rock. This group of rocks was not carried forward to the present survey.

The present survey, supplemented with bottom characteristics, rocks awash, and one prior sounding carried forward from H-5069 (1930), is adequate to supersede the prior surveys in the common area.

6. Comparison with Ch. 6102 - print date 3/14/60

A. Hydrography

Chart 6102 is a small scale chart (1:176,253), and not enough detail is shown to make a critical comparison

with the present survey. The charted hydrography originates with the prior surveys supplemented with soundings selected from both the boat sheet (Bp52976) and the smooth sheet of the present survey prior to verification and review.

The present survey is adequate to supersede the charted hydrography.

B. Aids to Navigation

James Island Light is the only aid to navigation located within the limits of this survey. The survey position is in agreement with the charted position.

7. Condition of Survey

- a. This survey appears adequate for charting at the scale of the chart now in existence (Chart 6102, Scale 1:176,253). However, the pinnacle rocks in this area are so steep sided, and the fathogram returns so poor, that a larger scale chart in this area would necessitate a wire drag survey to verify some of the shoal features and to make sure all the pinnacle rocks have been found.
- b. It appears that many of the original sounding entries were erased. Some corrections were made in pencil and other corrections in ink. In many cases, the phase changes were not indicated on the fathograms and are entered in the volumes from field reckoning. This combination of circumstances together with the very poor fathogram returns made the fathograms most difficult to interpret. Weak traces interpreted as side echos and incomplete traces at the peak of some pinnacles may have resulted in some questionable soundings being shown on the survey.
- c. All rock symbols and elevations inked on the smooth sheet by the processing office were erased and re-inked by the Washington Office because of the poor drafting and lettering.
- d. The Descriptive Report is complete and comprehensive

8. Compliance with Project Instructions

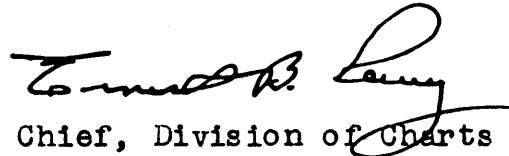
This survey adequately complies with project instructions. Most of the offlying critical depths have been verified with the hand lead.

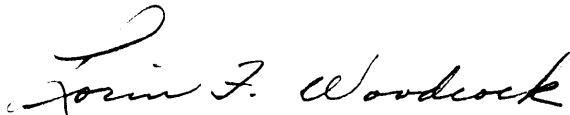
9. Additional Field Work Recommended


This survey is adequate to provide basic information for the existing Chart 6102 at a scale of 1:176,253 and no additional field work is recommended.

Examined and Approved:


Chief Nautical Chart Branch


Chief, Division of Charts


Chief, Hydrography Branch


Chief, Division of Coastal Surveys

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8242...

Records accompanying survey:

Boat sheets 1...; sounding vols. 10...; wire drag vols.;
 bomb vols.; graphic recorder rolls 7. Envelopes
 special reports, etc. 1-Smooth sheet and 1-Descriptive report;

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

Number of positions on sheet	..1872..
Number of positions checked	...117...
Number of positions revised	...0...
Number of soundings revised (refers to depth only)	..143..
Number of soundings erroneously spaced	...1...
Number of signals erroneously plotted or transferred	...0...
Topographic details	Time ..60..
Junctions	Time ..8...
Verification of soundings from graphic record	Time ..60..

Verification by *F.P. Saulsbury*..... Total time *321 hrs* Date *2-12-60*.

Reviewed by *Herbert W. Birgoayne*..... Time *93 hrs* Date *6/10/60*
Approx. 155 intermediate sdgs. were added.

TIDE NOTE FOR HYDROGRAPHIC SHEET

16 October 1958

Chart Division: R. H. Carstens:

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 8242

Locality Quillayute River, Washington

Chief of Party: H. G. Conerly in 1955

Plane of reference is mean lower low water, reading

4.4 ft. on tide staff at La Push

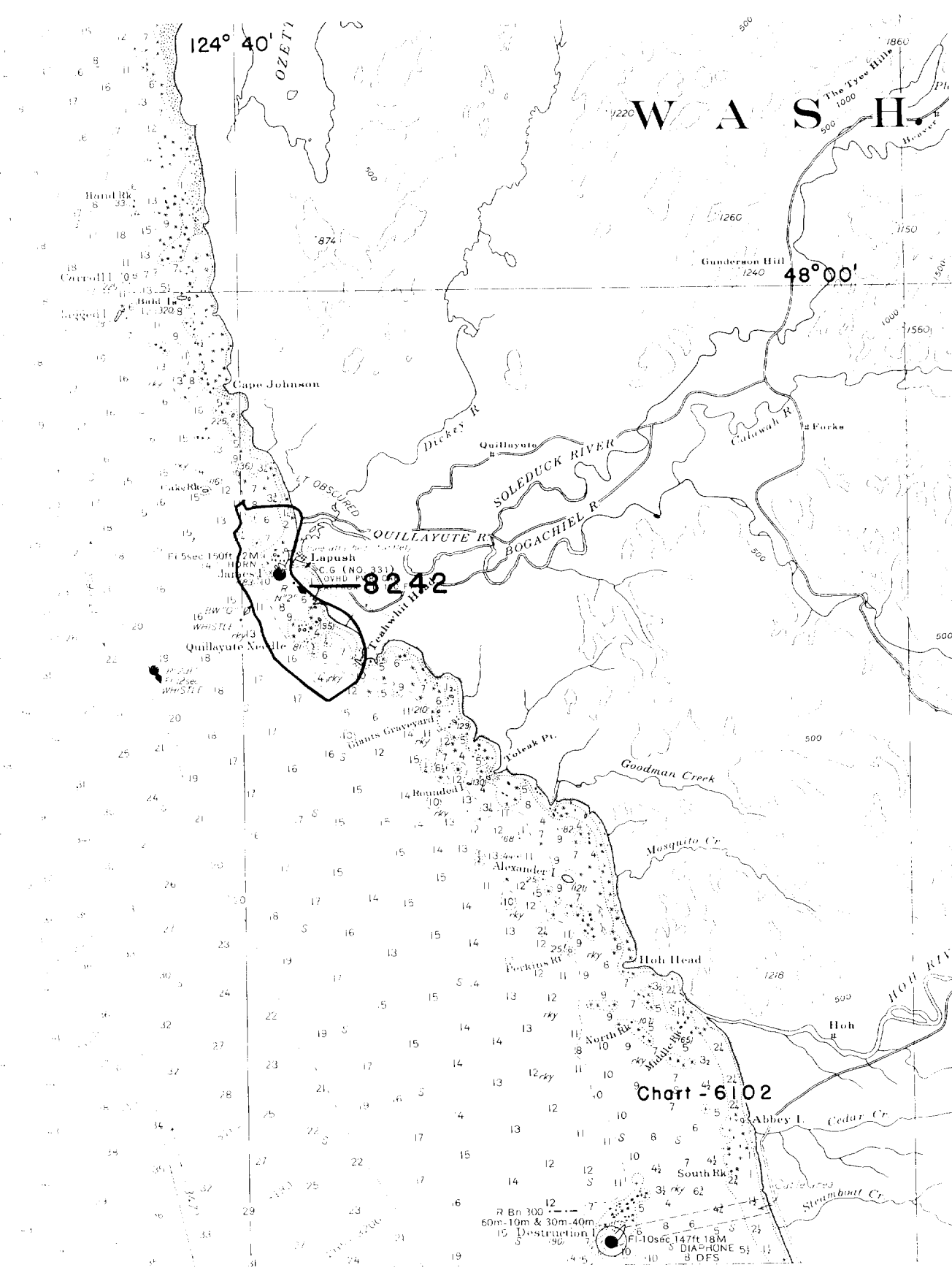
29.4 ft. below B.M. 7 (1955)

Height of mean high water above plane of reference is 7.8 feet.

Condition of records satisfactory except as noted below:


Signature

Chief, Tides Branch



W A S H.

48° 00'

8242

Chart - 6102

R Bn 300
60m-10m & 30m-40m
15 Destruction
Fl 10sec 147ft 18M
DIAPHONE 53
8 DFS

NAUTICAL CHARTS BRANCH

SURVEY NO. 8242

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9-30-59	6102	G.A. Kozemczak	<i>Partially Applied</i> Before Verification and Review
1-14-61	6102	<i>Wes R. Wittenman</i>	<i>The Boat Sheet was previously applied as Bp-52976.</i> Before After Verification and Review <i>376</i>
2-19-70	6102 Inset	J.S. Stuart	<i>Fully Applied to Expanded Inset.</i> Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
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			Before After Verification and Review

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.