FE110

Diagram No. 5902-2 & 6002-2

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

(HYDROGRAPHIC)

Type of Survey Field Examination

Field No. HO-1951

Office No. FE-110

LOCALITY

State Washington

General Locality Lower Columbia River

Locality Baker Bay

19 51

CHIEF OF PARTY
H.G. Conerly

LIBRARY & ARCHIVES

DATE February 20, 1952

☆ U.S. GOV. PRINTING OFFICE: 1976—669-441

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as;

FE No.7 1952

FE110

FE No. 7
1952

FE-110

Diag. Cht. No. 5902-2 & 6002-2

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HO-1951 Office No. F.E.No. 7(1952)

LOCALITY

State WASHINGTON

General locality LOWER COLUMBIA RIVER

Locality BAKER BAY

194 51

CHIEF OF PARTY

H. G. Conerly

LIBRARY & ARCHIVES

DATE FEBRUARY 20, 1952

B-1870-1 (1)

FE No. 7
1952

Form 537
(Ed. June 1946)

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-7941~~ Changed to F.E. No.7 (1952)

Field No. HO-1951

State: Washington

General locality: Lower Columbia River

Locality: Baker Bay ~~West Channel~~ ~~Sand Island Channel~~ West Channel

Scale: 1:10,000   Date of survey: October 11, 1951

Instructions dated: 26 July 1951

Vessel: HODGSON

Chief of party: H. G. Conerly

Surveyed by: D. L. Wheeler

Soundings taken by fathometer, g~~xxxxxxxxxxxxxxxxxxxx~~ shoal walking

Fathograms scaled by: Ship's personnel

Fathograms checked by: Ship's personnel

Protracted by: D. L. Wheeler

Soundings penciled by: D. L. Wheeler

Soundings in f~~XXXXX~~ feet at M~~XXX~~ MLLW and are true depths

REMARKS:

DESCRIPTIVE REPORT

to accompany

Hydrographic Survey ~~H-7940~~ (Field No.) HO-1851
~~H-7941~~ (Field No.) HO-1951 Changed to F.E. No. 7, (1952)

Lower Columbia River

Scale 1:10,000

1951

Ship HODGSON

Horace G. Conerly,
Chief of Party

A. Project

Project CS-339

This hydrographic survey was made in accordance with the following instructions:

1. Original instructions, 22/MEK,S-2-HO, dated 24 May 1949.
2. Supplemental insturctions, 22-EH, S-2-HO dated ~~26~~ No July 1951.

B. Survey Limits and Dates

Hydrographic Sheet H-7940 extends from Longitude 123° 50' 30" to Desdemona Sands Lt. Northern limit is Latitude 46° 13' 45". Southern limit is the shoreline including Youngs Bay to highway bridges spanning the Lewis and Clark River and Youngs River. Hydrography was begun 6 Sept. 1951 and ended 29 Oct. 1951.

Hydrographic sheet ~~H-7941~~ FE 7, 1952 covers Baker Bay West Channel from Baker Bay West Channel 14 Lt. to Baker Bay West Channel Range Front. Hydrography was begun 11 Oct. 1951 and ended same day.

Strong winds and some rain during October prevented further work around Sand Island and Baker Bay area.

C. Vessel and Equipment

Hydrography on Sheet ~~H-7941~~ F.E. 7 (1952) was accomplished with Launch No. 160, a 36 foot landing craft (LCPR). An 808 type portable depth recorder No. 77 was used with fish mounted on the keel.

Hydrography on sheet ~~H-7940~~ F.E. 7, 1952 was done with Launch No. 160 and Launch No. 134. Launch No. 134 is a 24 foot Navy Plane Personnel Craft. It was used for pole soundings only in the vicinity of Desdemona Sands.

The launches returned to the Ship HODGSON at the end of each working day.

D. Tide and Current Stations

See discussion under Tide Note attached.

One current station was occupied for 75 hours at Lat. 46° 14.95', Long. 123° 58.69'.

E. Smooth Sheet

The projections were made by hand on the Ship HODGSON.

F. Control Stations

On hydrographic sheet H-7940 the signals were located by third and fourth order triangulation done in 1909, 1913, 1935 and 1951.

On hydrographic sheet ~~H-7941~~ FEB 7, 1952, 1935 triangulation and Army Engineer's stations were used for signals. The Army Engineer stations were converted from Lambert Coordinates to U.S.C.&G.S. Coordinates.

G. Shoreline and Topography

The shoreline and topography is to be added by the Portland Photogrammetry Office at a later date. The photographs were taken in the fall of 1951.

The low water line on Sheet H-7940 was completely developed whenever possible but in some places it could not be defined due to wharfs, docks, and canneries. The low water line was not sounded in the vicinity of Baker Bay due to bad weather conditions and insufficient time for further development.

H. Soundings

An 808A type fathometer was used for sounding. Some pole soundings and shoal walking were done on Desdemona Sands. Walking of the shoals was done at low tide to outline the low water line. A handlead was used for sounding along the Astoria Port Docks.

See fathometer report under separate cover for method of obtaining corrections to be applied to fathometer readings.

I. Control of Hydrography

Hydrography was controlled by 3 point fixes taken with sextants to shore objects.

J. Adequacy of Survey

The survey on Sheet H-7940 is considered adequate. Sheet ~~H-7941~~ F.E.T. (1952) was not finished and should not be considered as adequate. Adequate as field exam.

K. Cross Lines

About 8% of cross lines were run. Discrepancies were very small and were not considered important.

L. Comparison with Prior Surveys

Hydrographic Sheet H-7940 should supersede all prior surveys. Every year the Columbia River undergoes considerable change due to spring freshets and dredging. The last prior surveys in this area were done in 1935 and a com-

parison with the current survey would have little value.

Prior surveys in the area of ~~H-7941~~ FE-7,1952 are H-1018 and H-1019. These two surveys were made in 1868. New surveys are needed in this area particularly in Baker Bay.

M. Comparison with Chart 6151 (~~edition~~ Print date 9 July 1951)

Hydrographic Sheet H-7940:
Latitude 46° 10' 51", Long. 123° 53' 41" chart shows house;- only broken piles remain.
Lat. 46° 12' 34", Long. 123° 51' 31" chart shows fish house;- Now in ruins only broken piles remain.
Lat. 46° 10' 48", Long. 123° 51' 32" docks in ruins.
Lat. 46° 11' 46", Long. 123° 55' 50" chart shows dolphin; dolphin now gone.
Lat. 46° 11' 33", Long. 123° 55' 26" docks partially in ruins.
Lat. 46° 12' 34", Long. 123° 52' 40" chart shows pile; - pile now gone.

Desdemona Sands has moved in a westerly direction and has increased in size.
The USED are using the deep water area S of Sand Island for a dumping area for material dredged from the main channel to the south and southeast.

Hydrographic Sheet ~~H-7941~~ FE-7-1952:
At Lat. 46° 16.07', Long. 124° 01.85' a new rock jetty was nearing completion in Oct. 1951. This jetty appears on photographs taken in the fall of 1951 for Project PH-50. It was constructed to cause scouring action in the channel and it is believed that it will cause changes in nearly all the area of this sheet.

N. Dangers and Shoals

In the area of Sheet H-7940 there are no dangers and shoals other than those clearly shown on the sheet.

Sheet ~~H-7941~~ FE 7,1952 is not near enough complete to show shoals and dangers.

O. Coast Pilot Information

This information will be submitted as a separate report.

P. Aids to Navigation

All aids to navigation are listed on Form 567 which is a part of this report.

The unattended unlighted ranges were located in Fort Stevens mooring basin by 3 point fixes with check angles.

At the beginning of the field work red nun buoy No. 32 was located by a three-point fix. At a later date this buoy was removed and had not been replaced at the close of the season.

Q. Landmarks for Charts

All landmarks for charts are listed on Form 567 which is a part of this report.

R. Geographic Names

Not applicable.

S. Silted Areas

FEB 1, 1952

The west channel entrance Lat. 46° 16', Long. 124° 02' leading into Baker Bay has silted badly. At present the range does not mark the channel. A new rock jetty is being built out from Sand Island and was nearing completion at the close of the season. The purpose of the jetty is to cause a scouring action that will maintain navigable depth in this channel.

T. Low Water Line

The low water line on Desdemona Sands was located by a combination of shoal walking and fathometer soundings. The zero curve was drawn on the smooth sheet adjacent to one foot soundings obtained by shoal walking for a short stretch at the eastern extremity of Desdemona Sands. It is believed that this curve is correctly delineated because of the known steep drop off at the edge of the shoal.

U. Tabulation of Applicable Data

1. Tidal records for Astoria Port Dock, Ft. Stevens & Ft. Canby forwarded to Washington.
2. Tide reducer curves and corrections forwarded under separate cover.
3. Triangulation previous to 1951, and triangulation done by HODGSON in 1951.
4. Fathometer report forwarded to Washington.

Respectfully submitted,

Dan L. Wheeler

Dan L. Wheeler,
Ensign, USC&GS

Approved and forwarded:

Horace G. Conerly

Horace G. Conerly,
Lt. Comdr., USC&GS
Commanding

STATISTICS

FOR H-7711 Changed to F.E. No. 7 (1952)

HYDROGRAPHIC SURVEY FIELD NO. HO-1951 (FE 7, 1952)

SHIP HODGSON

PROJECT CS-339

Launch No. 160

DATE	DAY	VOL.	HANDLEAD SOUNDINGS	POSITIONS	STAT. MILES OF SOUNDINGS
10/11/51	a	1	13	125	9.1

Total area 0.12 sq. stat. miles

Copy rec'd

TIDAL NOTE

Hydrographic Sheets H-7940 and H-7941 Changed to F.E. No. 7 (1952)

The tides were recorded by portable automatic tide gages. The tide staffs were connected to U.S.C.&G.S. bench marks and referred to MLLW.

On Hydrographic Sheet H-7941 the Fort Canby tide gage was used direct for the reducers. Hydrographic Sheet H-7940 was divided into four zones. The zones were spaced equidistant between the gages at "Port of Astoria" and the "Fort Stevens". The sheet was zoned for a 0.2 foot difference between adjacent zones. This difference was exceeded a few times, but did not exceed 0.4 foot.

The 105 meridian West was used for the time of day until 1 Oct. 1951 at which date the time was changed back to Pacific Standard time or the 120 Meridian West.

Tide gages were as follows:

Station	Latitude	Longitude	Staff Reading feet corresponding to MLLW
Astoria Port Docks	46° 11' 17"	123° 51' 27"	3.4
Fort Stevens	46° 12' 11.5"	123° 57' 02.0"	-0.25
Fort Canby	46° 17' 07"	124° 03' 02"	2.5

ABSTRACT OF VELOCITY CORRECTIONS

FOR HYDROGRAPHIC SHEET H-7940
~~H-7941~~ Changed To F.E. No. 7 (1952)

"A" Scale

Fathometer Reading Ft.	Correction Feet
0 to 7.2	+2.2
7.3 to 12.0	+2.0
12.1 to 16.8	+1.8
16.9 to 21.4	+1.6
21.5 to 26.2	+1.4
26.3 to 31.0	+1.2
31.1 to 35.8	+1.0
35.9 to 40.5	+0.8
40.6 to 45.2	+0.6
45.3 to 50.0	+0.4
50.1 to 54.8	+0.2

"B" Scale

Fathometer Reading Feet	Correction Feet
35.0 to 35.8	+2.2
35.9 to 40.5	+2.0
40.6 to 45.2	+1.8
45.3 to 50.0	+1.6
50.1 to 54.8	+1.4
54.9 to 59.6	+1.2
59.7 to 64.4	+1.0
64.5 to 69.2	+0.8

Abstract of Leadline No. 6 Corrections

Leadline Depth In Feet	Correction Feet
0 to 29.9	+0.2
30.0 to 52.0	0.0

Copy + file

LIST OF STATIONS ON SHEET H-~~7941~~ Changed to F.E. No. 7 (1152)

Hydro Name	Source
B-2	1948 (U.S.E.)
--	B-3 Dolphin, 1949(U.S.E.)
Baker	Baker Bay Jetty Lt., 1941 (U.S.E.)
--	Baker Bay West Channel Range Rear, 1949 (U.S.E.)
Bay	Baker Bay West Channel 6 Lt., 1949 (U.S.E.)
--	BLUFF 2 (WASH), 1926
Cap	CAPE DISAPPOINTMENT LIGHTHOUSE (WASH), 1873
--	CHINOOK (WASH), 1935
Dike	Volume 1
Dol	1949 (U.S.E.)
15 Lt.	Fort Canby 15 Lt., (U.S.E.)
Flag	1948 (U.S.E.)
14 Lt.	Baker Bay West Channel 14 Lt., 1949 (U.S.E.)
Heel	1949 (U.S.E.)
High	1948 (U.S.E.)
Jet	Volume 1
--	Jetty B-3 (U.S.E.)
Ran	Baker Bay West Channel Range Front, 1949 (U.S.E.)
--	Sand Island Cutoff Rear (U.S.E.)
--	VIT (U.S.E.) (WASH.), 1935
17 Lt.	Baker Bay West Channel 17 Lt., 1948 (U.S.E.)
Toe	1948 (U.S.E.)
Tow	(U.S.E.)
Trap	TRAP(WASH.), 1935
12 Lt.	Baker Bay West Channel 12 Lt., 1949 (U.S.E.)
West	Baker Bay West Channel 8 Lt., 1949 (U.S.E.)

LIST OF STATIONS ON SHEET H-~~7941~~ Changed to F.E. No. 7 (1952)

Hydro Name	Source
B-2	1948 (U.S.E.)
--	B-3 Dolphin, 1949(U.S.E.)
Baker	Baker Bay Jetty Lt., 1941 (U.S.E.)
--	Baker Bay West Channel Range Rear, 1949 (U.S.E.)
Bay	Baker Bay West Channel 6 Lt., 1949 (U.S.E.)
--	BLUFF 2 (WASH), 1926
Cap	CAPE DISAPPOINTMENT LIGHTHOUSE (WASH), 1873
--	CHINOOK (WASH), 1935
Dike	Volume 1
Dol	1949 (U.S.E.)
15 Lt.	Fort Canby 15 Lt., (U.S.E.)
Flag	1948 (U.S.E.)
14 Lt.	Baker Bay West Channel 14 Lt., 1949 (U.S.E.)
Heel	1949 (U.S.E.)
High	1948 (U.S.E.)
Jet	Volume 1
--	Jetty B-3 (U.S.E.)
Ran	Baker Bay West Channel Range Front, 1949 (U.S.E.)
--	Sand Island Cutoff Rear (U.S.E.)
--	VII (U.S.E.) (WASH.), 1935
17 Lt.	Baker Bay West Channel 17 Lt., 1948 (U.S.E.)
Toe	1948 (U.S.E.)
Tow	(U.S.E.)
Trap	TRAP(WASH.), 1935
12 Lt.	Baker Bay West Channel 12 Lt., 1949 (U.S.E.)
West	Baker Bay West Channel 8 Lt., 1949 (U.S.E.)

Copy ✓ Rev

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. Apr. 1950

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coast and Survey~~ 18 May 1953

Division of Charts: R. H. Carstens

Plane of reference approved in 1
volumes of sounding records for

~~HYDROGRAPHIC SHEET~~ F.E. No. 7 1952

Locality Baker Bay, Columbia River, Washington

Chief of Party: H. G. Conerly in 1951
Plane of reference is mean lower low water, reading
2.5 ft. on tide staff at Fort Canby
8.0 ft. below B. M. 2 (1926)

Height of mean high water above plane of reference is 7.1 feet.

Condition of records satisfactory except as noted below:

E.C. McKay
Section of Tides
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 877933

GEOGRAPHIC NAMES

Survey No. ~~H-7941~~ changed to F.E. No. 7 (1932)

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
										1
										2
										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
										M 234

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ~~H-7941~~ Changed to F.E.No.7 (1932)

Records accompanying survey:

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

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

special reports, etc. .....

.....

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

Number of positions on sheet		125
Number of positions checked		19
Number of positions revised		2
Number of soundings revised (refers to depth only)		2
Number of soundings erroneously spaced		5
Number of signals erroneously plotted or transferred		0
Topographic details	Time	0
Junctions	Time	0
Verification of soundings from graphic record	Time	1

Verification by A. W. Zeskind Total time 14 Date 5-27-53

Reviewed by A. W. Zeskind Time 5 Date 5-28-53

M-2232-1

REVIEW OF FIELD EXAMINATION NO. 7, 1952

The field examination covers Bakers Bay West Channel from Channel Light No. 14 to Bakers Bay West Channel Front Range. The area surveyed is the only completed portion of the contemplated survey of 1951 of Bakers Bay. The area surveyed is plotted on the accompanying section of the smooth sheet.

A comparison of the area between the latest prior surveys (1868) and the present survey, would serve no useful purpose because of the depositing of silt and the frequent dredging of the channel. Buoys BC-7, RN-10 and BC-13 which mark the dredged channel were off their stations from 60 to 120 meters at the time of the present survey.

A comparison between the present survey and Chart 6151 dated 2-16-53, shows that several critical soundings from the present survey have been applied to the chart. The charted controlling depth of 8½ ft. in July 1952(H.O.N. to M. No. 31, 1952) is in harmony with depths on the present survey.

The Descriptive Report is adequate to cover all other matters pertaining to this examination. No further discussion is considered necessary.

I. M. Zeskind
5-28-53

Inspected by: R. H. Carstens

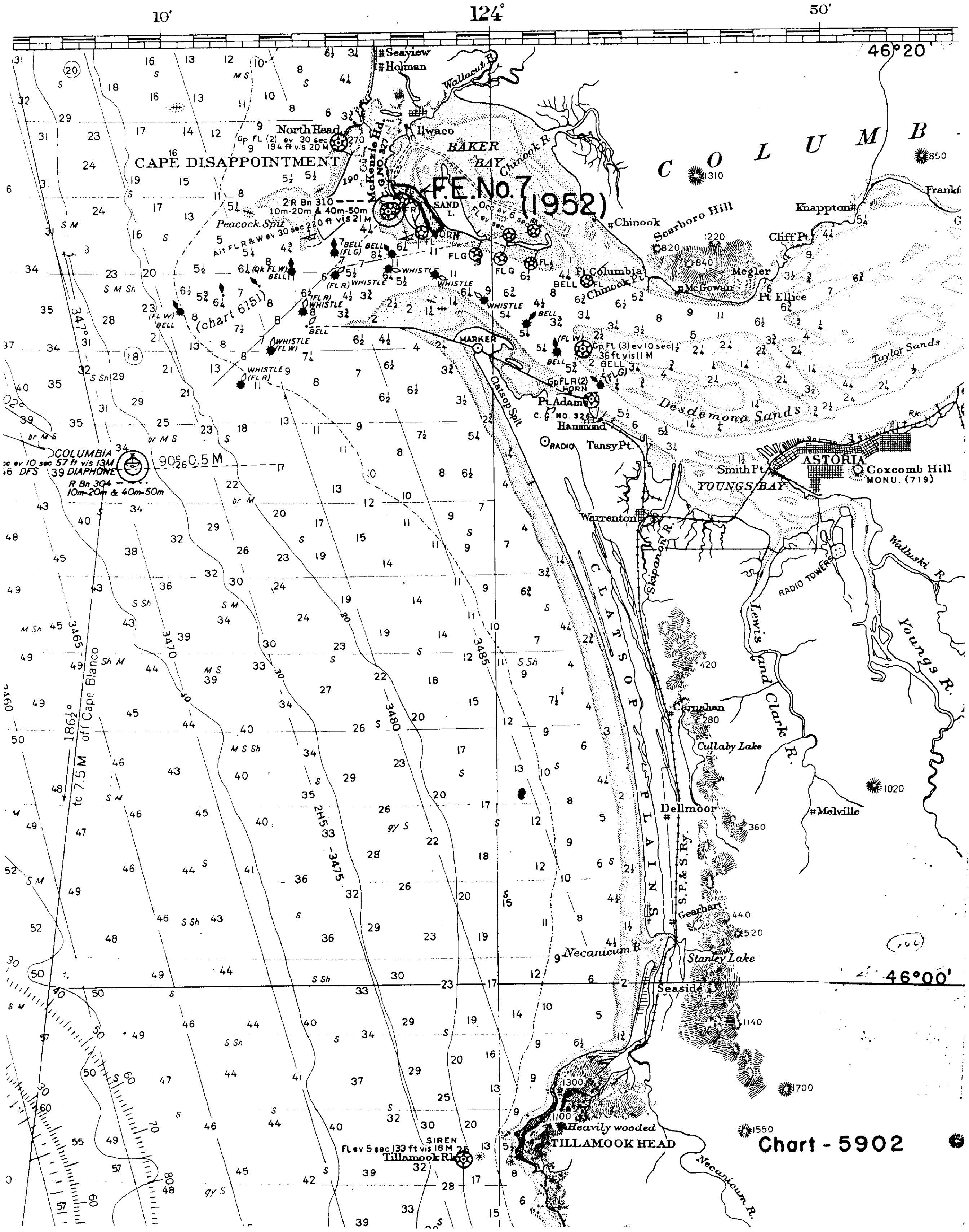
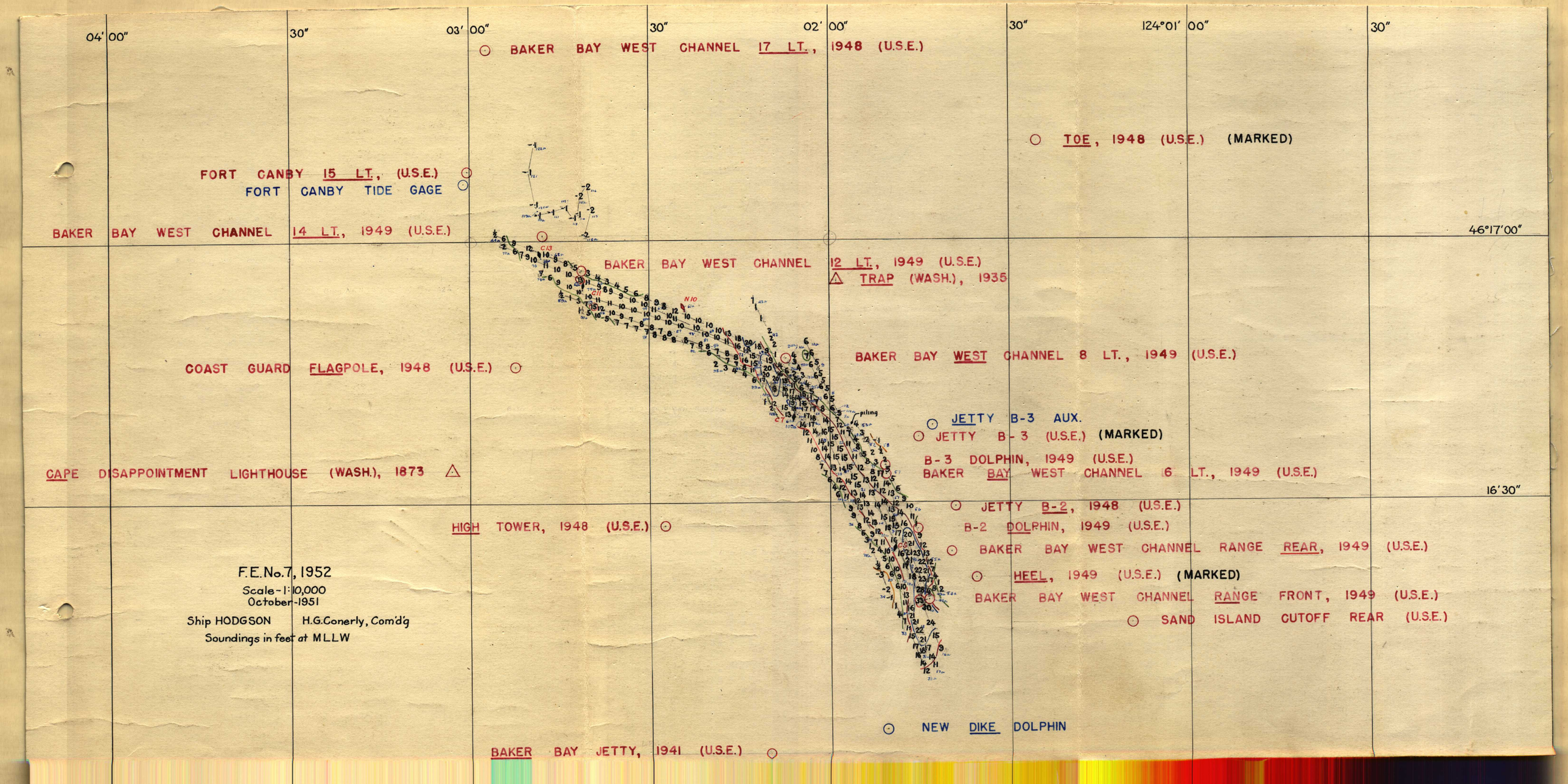

10'
124°
50'
46°20'
46°00'
CAPE DISAPPOINTMENT
North Head
McKenzie Hd
Ilwaco
BAKER BAY
Chinook R
Wallacut R
Seaview
Holman
F.E. No. 7 (1952)
Peacock Spit
SAND I.
Chinook
Scarboro Hill
Knappton
Cliff Pt
Ft Columbia
Chinook Pt
McGowan
Megler
Pt Ellice
C O L U M B
(chart 6151)
Taylor Sands
Desdemona Sands
Clatsop Spit
Pt Adams
C. G. NO. 326
Hammond
Tansy Pt.
Smith Pt.
ASTORIA
Coxcomb Hill
MONU. (719)
YOUNGS BAY
Warrenton
Skipanon R
RADIO TOWERS
Walluski R
Lewis and Clark R.
Youngs R.
COLUMBIA
DIAPHONE
R Bn 304
10m-20m & 40m-50m
90° 0.5 M
347°
186½° to 7.5 M off Cape Blanco
CLATSOP PLAINS
Carnahan
Cullaby Lake
Dellmoor
Melville
S. P. & S. Ry.
Gearhart
Stanley Lake
Necanicum R
Seaside
Heavily wooded
TILLAMOOK HEAD
Tillamook Rk
FL ev 5 sec 133 ft vis 18 M
SIREN
Necanicum R.

Chart - 5902


04' 00"
30"
03' 00"
30"
02' 00"
30"
124°01' 00"
30"
BAKER BAY WEST CHANNEL 17 LT., 1948 (U.S.E.)
TOE, 1948 (U.S.E.) (MARKED)
FORT CANBY 15 LT., (U.S.E.)
FORT CANBY TIDE GAGE
BAKER BAY WEST CHANNEL 14 LT., 1949 (U.S.E.)
46°17'00"
BAKER BAY WEST CHANNEL 12 LT., 1949 (U.S.E.)
TRAP (WASH.), 1935
COAST GUARD FLAGPOLE, 1948 (U.S.E.)
BAKER BAY WEST CHANNEL 8 LT., 1949 (U.S.E.)
JETTY B-3 AUX.
JETTY B-3 (U.S.E.) (MARKED)
B-3 DOLPHIN, 1949 (U.S.E.)
BAKER BAY WEST CHANNEL 6 LT., 1949 (U.S.E.)
CAPE DISAPPOINTMENT LIGHTHOUSE (WASH.), 1873
16'30"
JETTY B-2, 1948 (U.S.E.)
B-2 DOLPHIN, 1949 (U.S.E.)
HIGH TOWER, 1948 (U.S.E.)
BAKER BAY WEST CHANNEL RANGE REAR, 1949 (U.S.E.)
HEEL, 1949 (U.S.E.) (MARKED)
BAKER BAY WEST CHANNEL RANGE FRONT, 1949 (U.S.E.)
SAND ISLAND CUTOFF REAR (U.S.E.)
F.E.No.7, 1952
Scale-1:10,000
October-1951
Ship HODGSON H.G.Conerly, Com'd'g
Soundings in feet at MLLW
NEW DIKE DOLPHIN
BAKER BAY JETTY, 1941 (U.S.E.)

NAUTICAL CHARTS BRANCH

SURVEY NO. ~~H-7941~~ Changed to F.E. No. 7 (1952)

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
9/15/52	6151	N.W Burgoyne	partially applied - Superseded for the most part by later dredging - L 555 (52) Before ~~After~~ Verification and Review
11/23/53	6151	N.W Burgoyne	No correction ~~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
			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.