

8707 WIRE DRAG

Diag. Cht. No. 6450-2.

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY DESCRIPTIVE REPORT	
Type of Survey <u>WIRE DRAG</u>	
Field No. <u>BO-10-1-62 WD</u> Office No. <u>H-8707 W.D.</u>	
LOCALITY	
State	<u>WASHINGTON</u>
General locality	<u>PUGET SOUND</u>
Locality	<u>PORT TOWNSEND</u>
<u>19 62</u>	
CHIEF OF PARTY <u>F. X. POPPER</u>	
LIBRARY & ARCHIVES	
DATE	<u>DEC 26 1962</u>

USCOMM-DC 5087

**8707
WIRE DRAG**

18464
18471
18483
18491
18490
18492
18493

needs signed history

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.

Field No. BO-10-1-62 WD

State WASHINGTON

General locality PUGET SOUND

Locality PORT TOWNSEND

Scale 1:10,000 Date of survey JULY 21 - AUGUST 28, 1962

Instructions dated MAY 25, 1962

Vessel USC&GS SHIP BOWIE AND LAUNCH #95

Chief of party F. X. POPPER

Surveyed by F. X. POPPER AND L. S. BROWN

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

Fathograms scaled by F. O.

Fathograms checked by A. T.

Protracted by A. T.

Soundings penciled by A. T.

Soundings in ~~fathoms~~ feet at ~~MLLW~~ MLLW

Verification was limited.

REMARKS: to soundings, ground- VISUAL CONTROL
ings, hangs and clearances only.

This information was inked and STRIPS SUBDIVIDED BY A. TCZAP
appropriately annotated on the

Smooth and A+D sheets. The STRIPS INKED BY A. TCZAP
Smooth plotted positions and/or

effective depths of some ground- LAUNCHS 184 AND 1187 WERE USED AS TENDERS
ings and hangs were revised during the present processing, however, it was not considered necessary to revise

the affected effective depth drag strips. Accordingly, the cleared depths on the A+D sheet, especially in the
immediate vicinity of groundings and hangs, should not be regarded as fully verified and are to be used for

reference purposes only. No further processing of this survey is planned. X.W.W. 1-14-76

Handwritten mark

DESCRIPTIVE REPORT

TO ACCOMPANY

WIRE-DRAG SURVEY REGISTRY NO. H- (FIELD NO. BC-10-1-62 WD)

SP-14-62
USC&GS SHIP BOWIE

DATE: 1962
F. X. POPPER, COMMANDING

A. AUTHORITY:

This project, SP-14-62, was authorized under project instructions dated May 25, 1962.

B. CHARACTER AND LIMITS:

The purpose of this survey was to investigate two reported obstructions on Midchannel Bank near Port Townsend, Washington.

The limits of the work area are approximately 48°06'00"N to 48°08'00"N and 122°41'00"W to 122°45'00"W.

The scale of this sheet is 1:10,000.

Control used on this entire survey was visual.

The effective depths on this survey ranged from 63' to 22'.

C. CONTROL AND SHORELINE:

Ship's personnel located three signals on this sheet. (Abe, Pat and Boy) These signals were located by occupying the stations and locating them with sextant fixes.

The following triangulation stations are on the smooth sheet:

<u>NAME</u>	<u>G. P. PAGE NO.</u>	<u>DATE ESTABLISHED</u>
Port Townsend National Paper Products Company Southeast Stack	1492 1492	1937 1937
Port Townsend Catholic Hospital Steeple	1493 1493	1908 1908
Port Townsend Courthouse Steeple	1494 1494	1908 1908
Port Townsend First Presbyterian Church Finial	1498 1498	1941 1941

C. CONTROL AND SHORELINE: (Continued)

<u>NAME</u>	<u>G. P. PAGE NO.</u>	<u>DATE ESTABLISHED</u>
Point Hudson Lighthouse	1505	1926
Point Wilson Lighthouse	1432	1921
Admiralty Head Lighthouse	1500	1908
Point Marrowstone Lighthouse	1525	1921

D. DATE OF SURVEY:

This survey was completed between the dates of July 21, 1962 and August 28, 1962.

E. TIDAL REDUCERS:

The tide gage for this project was located at Fort Worden Wharf in Port Townsend, Washington. (Latitude $48^{\circ}08.1'$; Longitude $122^{\circ}45.6'$) The tide data from this gage was used with no time or range corrections. The 105° time meridian was used throughout this survey.

F. JUNCTIONS:

This project does not junction with any other wire drag surveys.

G. SPLITS:

No splits occur on this project but two small areas of insufficient overlap exist. These areas are bounded by the limits:

- (1) $48^{\circ}06.88'N$ to $48^{\circ}06.96'N$
 $122^{\circ}41.41'W$ to $122^{\circ}41.53'W$
- (2) $48^{\circ}06.76'N$ to $48^{\circ}06.82'N$
 $122^{\circ}42.83'W$ to $122^{\circ}42.99'W$

Area #1 resulted from a misinterpretation of the overlap requirements. The grounding was covered with sufficient sidelap but the condition that the bight of the drag must be assumed as a reverse "V" at the beginning of the drag was not planned for and this caused the insufficient overlap.

Area #2 was covered adequately on the boat sheet but when the smooth sheet was plotted signal Pat was found to be plotted incorrectly on the boat sheet being approximately 40 meters N.W. of its true position. This caused the strips to shift with the result of insufficient overlap.

H. GROUNDING AND SHOALS:

POSITION NO. & DAY	LATITUDE & LONGITUDE (degrees - minutes)	GROUNDING EFFECTIVE DEPTH (ft)	LEAST SOUNDED DEPTH (ft)	CLEARED EFFECTIVE DEPTH (ft)	REMARKS
✓ 9.2B 2 groundings	Vicinity of 48° - 06. ⁷⁸ 80 122 - 42. ⁷⁰ 70 ₆₈	34.0	Not Available	29 30	Temporary Grounding
✓ 12B	48 - 06.85 122 - 42.75	34.0	32.5 (See note below)	30	Shoal
✓ 33. ³ 5G	48 - 07. ⁴³ 43 ² 122 - 43. ⁹⁵ 95 ₄	⁴ 62.0	N.A.	47 62	Shoal
✓ 20M	48 - 06. ⁶⁶ ⁵ 122 - 42. ¹⁰ ₂	33.0	33.7	31	Temporary Grounding ✓
✓ 15J	48 - 07. ²⁷ 30 122 - 43. ⁴⁷ ₁	⁰ 42.0	40.5	37 39	Obstruction ✓
✓ 6K 6.3 K	48 - 07.35 122 - 43. ¹⁵ ₂₇	39.0	N.A.	37 & 31	Temporary Shoal Grounding ✓
✓ 12.5L	48 - 06. ⁸⁸ 95 122 - 43. ²⁵ ₇	⁹ 37.0	N.A.	34	Temporary Grounding ✓
✓ 13 L	Lat. 48° 06.92', Long. 122° 43.31'	37	"	34	"
✓ 25L	48 - 06. ⁹⁵ ⁷ 122 - 42. ⁸⁰ ₃	33.0	37.5 N.A.	29	Shoal Obstruction ✓
✓ 17 M	Lat. 48° 07.03', Long. 122° 42.92'	34	N.A.	33	Shoal
✓ 14 12M and 24m	48 - 07. ⁰⁵ ⁸⁸ 122 - 42. ⁸⁶ ₃	¹ 34.0 2 Groundings	31.2 N.A.	29 30	Shoal ✓
✓ 19 M	Lat. 48° 07.07', Long. 122° 42.82'	34	N.A.	33	"
✓ 12.5N	48-06.778 122 - 42. ⁹⁰ ₂	35.0	N.A.	29 34	Shoal ✓
✓ 12.5 N	Lat. 48° 06.76', Long. 122° 42.63'	35	N.A.	34	"
✓ 10P	48 ⁸ - 07. ⁴⁰ ³⁴ 122 - 42. ⁵⁸ ₅	60.0	N.A.	37	Shoal
✓ 15 P	Lat 48° 07.41' - Long. 122° 42.58'	60	N.A.	52	"
✓ 37.5Q	48 - 06. ⁹⁰ ² 122 - 41. ⁴⁵ ₉	59.8 60	54.5 N.A.	37	Temporary Grounding
✓ 39R	48 - 06.84 122 - 42.75	29.0 30	30.6	30	Obstruction ✓
✓ 8.6 K	48° - 07.25' 122° - 42.95'	39	N.A.	35	" ✓
26 m	48° - 07.00' 122° - 42.70'		31 (See note below)	29	Sounding in the vicinity of Pos. 20 M, buoy no. 3

Note: No velocity correctors were determined for the two plotted soundings. These soundings were retained inasmuch as they are shoaler than surrounding depths on H-6816 (1942-43), the latest hydrographic survey in the area.

I. GENERAL NOTES:

Due to the irregular bottom in the working area, many strips were made and the boat sheet became so confused that it is very difficult to interpret. To avoid this on the smooth sheet, portions of the strips that were not essential were omitted. As an example, if the beginning of a strip (position 1 through 10) crossed a deeper strip, a straight line was drawn between the two positions of 10 and the portion of the strip preceding position 10 was omitted. All portions of drag strips containing hangs or groundings were shown on the smooth sheet.

Any strip that began with an S-Curve bight was rejected and the strip was begun after a normal bight was recorded. (14 & 15N) Strips that started with reverse bights were shown as such on the smooth sheet.

On R day, a hang occurred with the drag at an effective depth of 29.5 feet in an area that had previously been cleared at 30 feet. The 29.5 feet effective depth was obtained using a 1.0 foot lift. The lift tests revealed 1.0 foot lift between F and 7 buoys but no lift in the center of the drag. Since the hang occurred at the #4 buoy, it is believed that the procedure of applying the worst lift condition to all sections was over safe in this case and caused the above stated contradictory case. The actual effective depth at the hang is ~~was probably 30.5~~ feet rather than 29.5 feet.

On N day, the work was done in strong currents. Due to this, the bight of the drag was a straight line at times. The strip between positions 14 - 34N and 42 - 45N plots about 10 meters wider than it actually was. The anglers on the ship were standing about 11 meters behind the point where the towline was secured to the ship and this is believed to be the reason. If this 11 meters were taken into account, the width of the drag would be correct.

On M day, a careless yachtsman drifted into the drag and approximately 1300 feet of wire was subsequently lost. This wire still had the toggles and weights attached. On N day, numerous hangs were encountered while maneuvering into position and during the dragging operation. No shoal sounding could be found in the area of the hangs and it was noted by the tenders that the drag felt as if it was caught up in the lost equipment. It seems safe to assume that the drag was fouling up in suspended toggles of the lost equipment.

Due to the irregular and rocky bottom, many hangs were encountered, particularly in the area bounded by Latitudes $48^{\circ}06.8'N$ to $48^{\circ}07.1N$ and Longitudes $122^{\circ}04.4'W$ to $122^{\circ}04.2'W$. The cleared depths in this area are between 3 feet and 9 feet less than charted depths. It is believed that the railroad cars cited in the project instructions exist mainly in this area.

J. CURRENTS:

The currents in this area were very detrimental to wire drag operations. The currents were not of the reversing type but rather were confused and the direction could not be predicted accurately.

The strength of the currents were always much higher than the Current Tables indicated. The velocity of the current was measured to be as high as 4.7 knots.

Current observations were taken and the set and drift are shown in the sounding volumes.

Many of the irregular lines of the drag on this survey are accounted for by these currents, also causing the fact that many least depths could not be obtained over groundings. A separate report of current observations is being forwarded.

K. DISCREPANCIES AND COMPARISON WITH PREVIOUS SURVEYS AND CHARTS:

This survey checks the ten fathom curve shown on Hydrographic Survey No. 6816.

At Latitude $48^{\circ}06.7'$ Longitude $122^{\circ}43.9'$ the prior survey No. 6816 shows a 41' depth but the drag hung there at an effective depth of 33 feet.

At position 39R, Latitude $48^{\circ}06.8'$ Longitude $122^{\circ}42.6'$, the tender recorded a sounding of 30.6 feet while the prior survey shows a 39 feet.

At position 24M, Latitude $48^{\circ}07.1'$ Longitude $122^{\circ}42.9'$, survey 6816 shows 39 feet while the shoal sounding obtained by the tender was 33.5'

In the area of Latitude $48^{\circ}06.8'$ Longitude $122^{\circ}42.9'$ the drag grounded at an effective depth of 35 but the prior survey indicates a depth of 39.

^{L-953/48}
An obstruction of 27 feet is shown on the chart at Latitude $48^{\circ}06.55''$ Longitude $122^{\circ}42.31''$. This area was cleared to an effective depth of 30 by this survey. It seems that the shoalest area is approximately 0.2 mile S.W. of this sounding where a least depth of 30.6 feet was found. *Concur*

The discrepancies listed above are ^{Possibly} ~~probably~~ ^{in part} due to the strong currents on Midchannel Bank causing the bottom to change.

Disregard, see sect. H, Groundings and Shoals (Page 3)

L. PERSONNEL AND EQUIPMENT:

The Ship BOWIE, with CDR F. X. Popper in charge, was used for the guide launch.

Launch No. 95, a 30 foot, wooden, diesel-powered launch, with LT L. S. Brown in charge, was used for the end launch.

Two tenders were used throughout dragging operations. Both tenders were 26 foot, plastic, diesel-powered whaleboats. Launch #184 was called Tender #1 and ENS A. Tczap was in charge of it. Launch No. 1187 was called Tender #2 and ENS H. A. Uzpurvis was in charge.

A 2400 foot drag was used for the entire operation.

M. MISCELLANEOUS:

The lift tests taken during this survey seemed to be quite accurate. In some instances both tenders tested the same sections at approximately the same time and obtained the same results.

The work area was clear of fishing gear such as crab pots. There were many pleasure craft operating in the area but they stayed clear of the drag.

There is a restricted naval area just off Midchannel Bank which forces merchant shipping to come very close to the work area. These merchant ships are the greatest hazard to dragging operations. In one instance a Standard Tanker passed over the drag strip but did not damage it.

Morning fog is the prevailing condition in this area during late August and September. Work could not commence until about 11 AM each day. Some of the strips on this sheet were done during poor visibility.

The sea condition was very good in most instances. Very few drags were completed in a sea that was greater than a 1 foot swell.

According to local knowledge, there are many wrecks in this area left from the days of sailing ships. This fact could possibly account for the many hangs and the discrepancies noted under paragraph K but since no diver was available this can only be an assumption.

N. RECOMMENDATIONS:

This sheet does not require any further work other than perhaps a skin diving operation to detect the exact nature of the numerous hangs encountered.

N. RECOMMENDATIONS: (Continued)

Respectfully submitted,

A handwritten signature in cursive script that reads "Andrew Tczap".

Andrew Tczap
LTJG, C&GS
USC&GS Ship BOWIE

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APPROVAL SHEET

BO-10-1-62 WD

Field work on this wire drag survey was inspected daily by the Chief of Party. This survey is considered complete and no additional work is necessary. All records are approved and forwarded.

Lawrence S. Brown

Lawrence S. Brown
LT, C&GS
Commanding, Ship BOWIE

STATISTICS TO ACCOMPANY WIRE DRAG SHEET BO-10-1-62 WD, H-

DATE 1962	DAY	VOLUME NUMBER	POSITIONS*	LIN. MILES (NAUTICAL)	TENDER & SOUNDINGS	TENDER POSITIONS
July 21	A	I	26	.25	-	-
22	B	I	26	.50	1	2
24	C	I	74	2.47	-	-
25	D	I	55	1.42	-	-
26	E	I	22	1.00	-	-
27	F	I	71	2.25	-	-
Aug. 8	G	II	94	3.50	-	-
9	H	II	91	1.75	1	1
10	J	II	118	2.00	-	-
11	K	III	26	.60	3	4
12	L	III	268	3.00	1	4
13	M	IV	40	.80	5	6
14	N	IV	119	1.49	8	9
16	P	IV	32	.60	-	-
27	Q	IV	85	2.35	1	1
28	R	IV	77	.80	1	1
TOTALS FOR SHEET			1224	24.78	21	23

AREA - 7.02 Square Nautical Miles

*Total Positions, Guide plus End Vessel

TIDAL NOTE

The tide gage located at Fort Worden Wharf, Port Townsend, Washington was used for this entire survey. It is located at Latitude $48^{\circ}08.1'$ Longitude $122^{\circ}45.6'$. MLLW in this area corresponds to $4.54'$ on the staff. The 105° time meridian was used throughout this survey.

GEOGRAPHIC NAMES

Survey No. H-8707

Name on Survey	<div style="display: flex; justify-content: space-around;"> On Chart No. 6450 On previous survey On U. S. quadrangle Maps From local information On local Maps P. O. Guide or Map Rand McNally Atlas U. S. Light List </div>										
	A	B	C	D	E	F	G	H	K		
Midchannel Bank	✓										1
Port Townsend	✓										2
(tide station)											3
											4
											5
											6
											7
											8
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	.										23
											24
											25
											26
											27

George W. Ball
 Geographic Names
 Jan 29 1963

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. 8707....

Records accompanying survey: Smooth sheets 1.....;

boat sheets ..2...; sounding vols.; wire drag vols. ..8...;

Descriptive Reports ..1...; graphic recorder envelopes ...1...;

special reports, etc. 1-Area and Depth Sheet; 1 Roll-Strip.....

. tracings and 5-Tender Volumes.....

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

Number of positions on sheet1247..

Number of positions checked42..

Number of positions revised

Number of soundings revised6..

(refers to depth only)

Number of soundings erroneously spaced

Number of signals erroneously plotted or transferred

Topographic details Time0..

Junctions Time0..

Verification of soundings ^{and clearances} from graphic record Time64..

Special adjustments Time

Pre-Verification by *Kenneth W. Wellman* Total time64... Date 1-14-76..

Reviewed by Time Date

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-8707

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.
2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.
3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.
4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.
5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.
6. All positions verified instrumentally were check marked in the sounding records.
7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.
8. The metal protractor has been checked within the last three months.
9. The protracting and plotting of all bad crossings were verified.
10. All detached positions locating critical soundings, rocks or buoys were verified.
11. The boat sheet was compared with the smooth sheet.

12. The spacing of soundings as recorded in the records was closely followed.
13. The bottom characteristics were shown on outstanding shoals.
14. The reduction and plotting of doubtful soundings were checked.
15. The transfer of contemporary topographic information was carefully examined.
16. All junctions were transferred and overlapping curves made identical.
17. The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.
18. The depth curves have been inspected before inking.
19. All triangulation stations and transfer of topographic and hydrographic signals were checked.
20. Heights of rocks were checked against range of tide.
21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve.
22. Unnecessary pencil notes have been removed.
23. Objects on which signals are located and which fall outside of the low water line have been described on the sheet.
24. The low water line and delineation of shoal areas have been properly shown.
25. Degree and minutes values and symbols have been checked.
26. Questionable soundings have been checked on the fathograms

27. Source of shoreline and signals (when not given in report).
28. All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.
29. All aids located, with those on contemporary topographic sheets, have been shown on survey.
30. Depth curves were satisfactory except as follows:
31. Sounding line crossings were satisfactory except as follows:
32. Junctions with contemporary surveys were satisfactory except as follows:
33. Condition of sounding records was satisfactory except as follows:
34. The protracting was satisfactory except as follows:
35. The field plotting of soundings was satisfactory except as follows:
36. Notes to reviewer:

Verified by

Date

EHC

FORM C&GS-712
(4-62)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

April 22, 1963

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 8707

Locality Port Townsend, Washington

Chief of Party: F. X. Popper (1962)

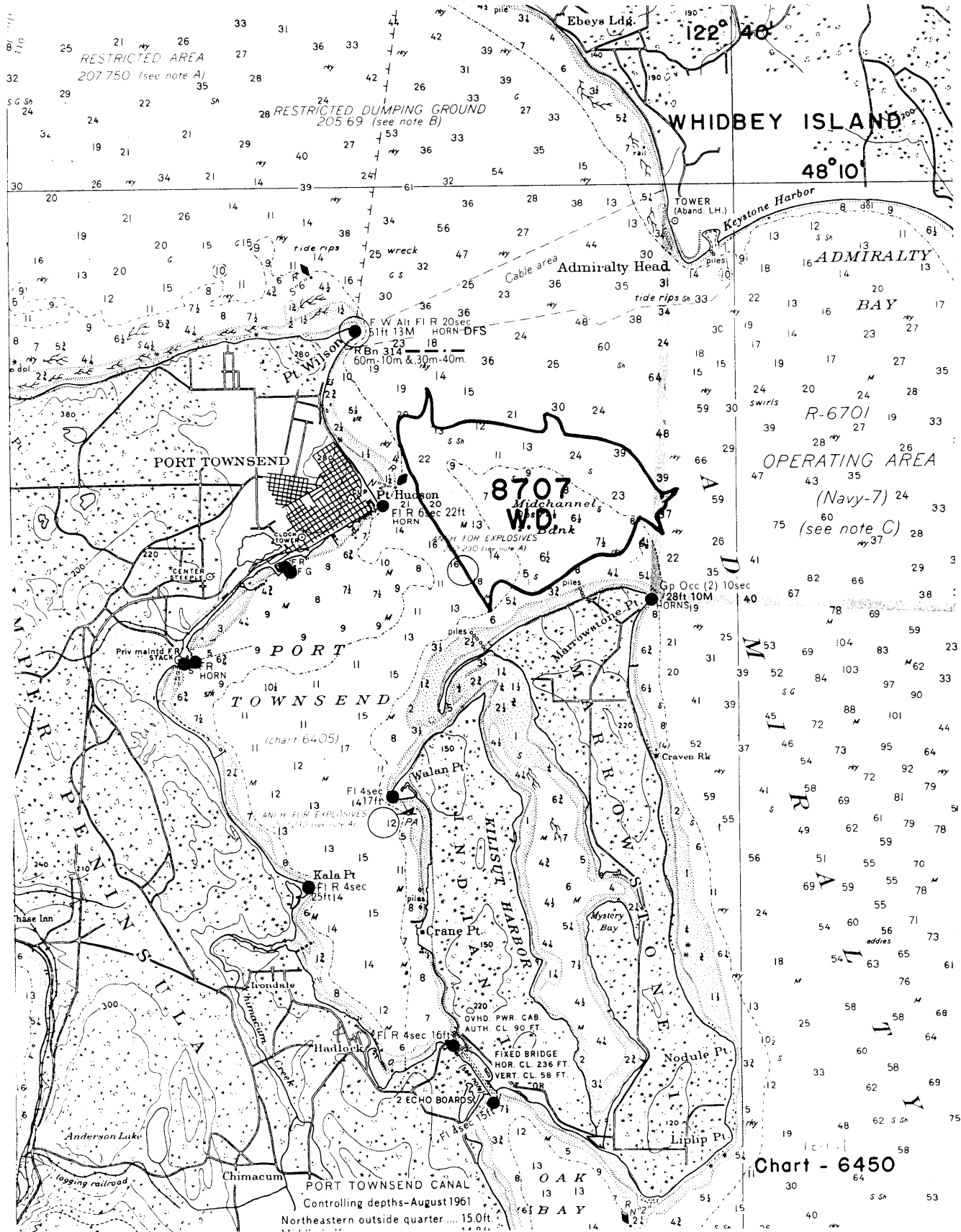
Plane of reference is mean lower low water
4.5 ft. on tide staff at Port Townsend, Washington
15.2 ft. below B. M. 1 (1925)

Mean high water above plane of reference is 7.9 ft.

Condition of records satisfactory except as noted below:

:


Chief, Tides and Currents Branch



NAUTICAL CHARTS BRANCH

18423 clear
18471 OK
18441 read & Appl'd
18490 " "

SURVEY NO. H-8707 W.D.

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
18464 { 1-31-63	6405	M. H. Hall	Before After Verification and Review Partly app.
{ 3-13-63	6405	R. E. Elkins	added 7 cleared spots, deleted obscr originating with L-953/48
{ 1-31-63	6450	M. H. Hall	Before After Verification and Review Partly app
{ 3-13-63	6450	R. E. Elkins	added several cleared spots - Deleted reported shoal.
{ 1-31-63	6401	M. H. Hall	Before After Verification and Review Partly app
	18440		
1-31-63	6300	M. H. Hall	Before After Verification and Review Partly app
	(18400)		
11-17-70	184-SC	C. F. Kupiec (A/NH)	Before After Verification and Review Partly appl'd thru 6450 #31, to edition prior to #6.
18464	7/80	Costa	Before After Verification and Review Partly app
		7-24-80 ROS	DWG #22
18400	7/80	Costa	Before After Verification and Review Partly app
		7-24-80 R/C	DWG #45
18441			Before After Verification and Review
18400	3/90	Ellen Spencer	App'd in full or Adeq. app'd
X 18423	8-90	E. Martin	Before After Verification and Review drg 28 in full, no additional work required.
			Before After Verification and Review
X 18464	9/9/91	Charles E. Janus	App'd or full or Adequately app'd, NO CORRS DRG # 25
18400	18423	F. Thompson	Adequately Applied; No corrs
18440	7-19-93	J. Brethlock	Adequately applied thru 18441; revised danger curve
		:	

Re Ex no further P/P need

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.

DISTRIBUTION OF TIDE CORRECTIONS INDIAN RIVER INLET, DELAWARE

- ZONE 1, OFFSHORE
- ZONE 2
- ZONE 3
- ZONE 4
- ACTUAL PATH OF LAUNCH IN ZONES, VERSUS TIME

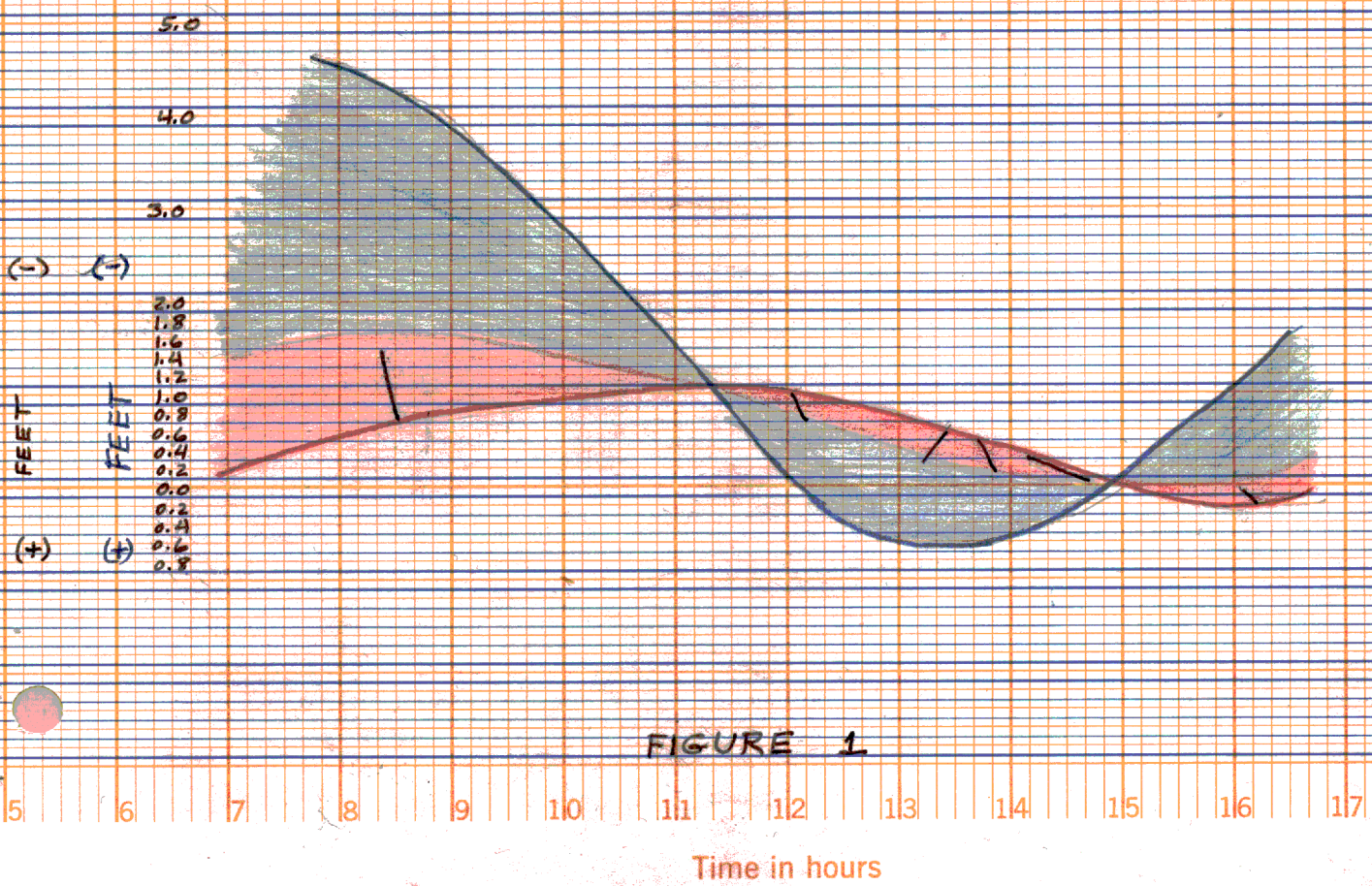


FIGURE 1