

# 8211

Diag. Cht. No. 6460-2.

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

## DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. NW-1156 Office No. H-8211

### LOCALITY

State Washington

General locality Lake Washington

Locality South End of Lake Washington

19/56

CHIEF OF PARTY

L. S. Hubbard

LIBRARY & ARCHIVES

DATE May 23, 1956

B-1870-1 (11)

# 8211

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-8211

Field No. NW-1156

State Washington

General locality Lake Washington

Locality South End of Lake Washington

Scale 1/10,000 Date of survey March 1956

Instructions dated 8 February 1956

Vessel PATHFINDER Launch 4

Chief of party L. S. Hubbard

Surveyed by F. X. Popper and J. O. Boyer

Soundings taken by ~~XXXXXXXX~~, graphic recorder, ~~XXXXXXXXXXXX~~ No. 46

Fathograms scaled by E. Newman and G. Palms

Fathograms checked by F. X. Popper and J. O. Boyer

Protracted by C. D. Upham

Soundings penciled by C. D. Upham

Soundings in ~~XXXXXXXX~~ feet at ~~XXXXXXXXXXXX~~ Mean Lake Level *and are true depths.*

REMARKS:

.....  
.....  
.....  
.....  
.....

*JHE.*

DESCRIPTIVE REPORT to Accompany HYDROGRAPHIC SURVEY H-8211(1956)  
(Field No. NW-1156)

LAKE WASHINGTON - SOUTH END

Scale: 1:10,000

Seattle District  
L. S. Hubbard, Chief of Party

PROJECT

This survey is part of no project. Original instructions, dated 8 February 1956, were written by the Seattle District Officer and refer to Director's letter dated 15 November 1955, file 22/MEK, D-1-NW. ✓

SURVEY LIMITS AND DATES

This survey covers the southeast corner of Lake Washington. There are no contemporary surveys in this area. ✓

Field work on this survey began on 15 March 1956 and ended on 21 March 1956.

VESSELS AND EQUIPMENT

PATHFINDER launch 4 was used exclusively on this survey. The launch was moored alongside a bulkhead approximately 0.75 mi. SSE of Coleman Point during periods when hydrography was not in progress and launch personnel commuted daily via government vehicle from the Coast and Geodetic Survey Ships Base on Lake Union. With the exception of one officer and a recorder, furnished by the Ship EXPLORER, launch personnel were furnished by the Ship PATHFINDER. ✓

Model 808 graphic recording fathometer number 46 calibrated to 800 Fm./Sec. with keel mounted acoustic units was used throughout this survey. ✓

No soundings were taken at turns and no determination was made as to turning radius of the launch. ✓

TIDE AND CURRENT STATIONS

Tide corrections were obtained by reading a tide staff (the zero of which was set at mean lake level) each morning and evening while hydrographic operations were in progress. The tide staff was secured to a dock in Leschi Park at Lat.  $47^{\circ}36'09''$  N, Long.  $122^{\circ}16'58''$  W. See TIDE NOTE, this report. (outside limits of this survey) ✓

No current observations were made. ✓

## SMOOTH SHEET

The Smooth Sheet projection was made by hand at the USC&GS Ships Base, Seattle, Washington, by C. D. Upham. Signals were plotted by C. D. Upham and verified by personnel of the Ship PATHFINDER.

The shoreline was transferred to the Smooth Sheet with the projector at the Seattle Processing Office.

## CONTROL STATIONS

All control stations used on this survey are on North American 1927 datum. The triangulation control was established by L. S. Hubbard in 1956.

Photogrammetric methods in conjunction with theodolite and sextant cuts were used to obtain the locations of signals Abe and Doc. Two cuts to each of these signals were obtained from nine lens aerial photographs Nos. 17855 and 17856. As no topo manuscript of the area had been furnished, hand templates of each photograph were made and oriented using control plotted on the smooth sheet. The theodolite and sextant cuts were plotted to check the photo locations.

Signals Ack and Bor were located by traverse and plotted on the smooth sheet using direction and distance. All other signals were located by either sextant cuts or three point sextant fix.

*See Item 36 Verifiers Report.*

## SHORELINE AND TOPOGRAPHY

The Shoreline and Topography were obtained from two sources. That part of the shoreline which has been inked on the smooth sheet was taken from C&GS Chart 6449, 5th Edition, dated 30 May 1955.

Part of the charted shoreline was found to be in error and in the areas where this was the case the shoreline was transferred from the photographs. All shoreline taken from the photographs was left in pencil on the smooth sheet. *-inked by verifier.*

The shoreline was adjusted slightly in the vicinity of pos. 44e (approx. 100 m. N. of LONE, 1956) to agree with the hydrography.

As there is no appreciable tide in this area, it was not possible to define the low water line by soundings.

## SOUNDINGS

All sounding was done with model 808 graphic recording fathometer number 46 calibrated to 800 Fm./Sec. with keel mounted

acoustic units. Fathometer corrections were determined from calibrations made daily while hydrography was in progress. For purposes of calibration the fathometer receiver unit was disconnected and another receiver unit, secured to the end of a graduated cable, was connected in its place. The receiver unit was then lowered over the side of the launch and at known depths the fathometer readings were recorded. For sample computation see page 8, Volume 1 of the sounding records. See also page 59, Volume 1, of the sounding records for a sketch of the calibration equipment and cable measurements.

"A" scale - "B" scale phase corrections were determined from bar checks. "B" scale - "C" scale phase corrections were determined from scale changes made while on sounding lines.

The Abstract of Bar Checks, Fathometer Corrections Curve, and Abstract of Fathometer Corrections are appended to this report.

No leadline corrections appear in the sounding records as each vertical cast was checked with a steel tape immediately after being taken.

#### CONTROL OF HYDROGRAPHY

All hydrography was controlled by sextant fixes. The control is adequate and there are no discrepancies.

#### ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior surveys for charting.

There are no contemporary surveys in this area with which to compare junctions.

#### CROSSLINES

About 10 percent of the sounding lines are crosslines. All crossings are satisfactory.

#### COMPARISON WITH PRIOR SURVEYS

No copy of prior survey has been supplied to this activity.

See  
Review  
HP 5

COMPARISON WITH CHART

A comparison is made with C&GS Chart 6449, Seattle Harbor And Lake Washington, 5th Edition, Dated 30 May 1955. ✓

In general, where the bottom is relatively flat or gently sloping, the charted depths appear to be from 3 ft. to 6 ft. deeper than the depths determined by this survey.

A least depth of 4 ft. was found to exist at Lat.  $47^{\circ}31'10''$ <sup>09"</sup> N. Long.  $122^{\circ}12'46''$  W where the charted depth is 7 ft. (4 ft. charted, print of 4/29/57) ✓

A least depth of 3 ft. was found to exist at Lat.  $47^{\circ}30'65''$  N Long.  $122^{\circ}12'52''$  W where the charted depth is greater than 18 ft. (3 ft. charted, print of 4/29/57) ✓

DANGERS AND SHOALS

The shoal at Lat.  $47^{\circ}31'10''$ <sup>09"</sup> N, Long.  $122^{\circ}12'46''$  (least depth 4 ft.) is approximately 100 meters long, 30 meters wide and composed of hard sand. No rocks or boulders were in evidence. ✓

The shoal at Lat.  $47^{\circ}30'05''$  N, Long.  $122^{\circ}12'52''$  W is approximately 100 meters long and 20 to 30 meters wide. The least depth is 3 ft. and no boulders or rocks were in evidence. ✓

each of  
Approximately 30 minutes was spent developing the above mentioned shoals.

A number of "Deadheads" (water soaked logs with one end resting on the bottom and the other end at the water surface) were found in the area of this survey. The following were located by sextant fix:

Lat.  $47^{\circ}31'05''$ <sup>06"</sup>  
Long.  $122^{\circ}12'41''$  ✓

Lat.  $47^{\circ}31'02''$ <sup>03"</sup>  
Long.  $122^{\circ}12'36''$  ✓

Lat.  $47^{\circ}31'02''$  ✓  
Long.  $122^{\circ}12'34''$  ✓

Lat.  $47^{\circ}30'22''$  ✓  
Long.  $122^{\circ}12'07''$  ✓

All "Deadheads" in evidence were located. However, as those located might move or new ones develop, depths where "Deadheads" might be found (approximately 30 ft. or less) should be navigated with caution. ✓

COAST PILOT INFORMATION

Not applicable. ✓

AIDS TO NAVIGATION

There are no fixed aids to navigation within the area covered by this survey. ✓

The following floating aids to navigation were located by sextant fix:

<u>Location</u>	<u>Pos. No. and Date</u>	<u>Depth</u>	<u>Description</u>
Lat. 47° 30' 28" ✓ Long. 122° 12' 38" ✓	2a 3/15/56	73 ft. ✓	Large white log with light
Lat. 47° 30' 28" ✓ Long. 122° 12' 41" ✓	3a 3/15/56	77 ft. ✓	White nun buoy
Lat. 47° 30' 28" ✓ Long. 122° 12' 46" ✓	4a 3/15/56	78 ft. ✓	Large white log with light
Lat. 47° 30' 21" ✓ Long. 122° 12' 37" ✓	5a 3/15/56	65 ft. ✓	Large white <del>log</del> log with light ✓
Lat. 47° 30' 22" ✓ Long. 122° 12' 46" ✓	7a 3/15/56	72 ft. ✓	Large white log with light
Lat. 47° 30' 16" ✓ Long. 122° 12' 37" ✓	6a 3/15/56	60 ft. ✓	White nun buoy
Lat. 47° 30' 15" ✓ Long. 122° 12' 46" ✓	8a 3/15/56	66 ft. ✓	Large white log with light
Lat. 47° 30' 09" ✓ Long. 122° 12' 45" ✓	9a 3/15/56	44 ft. ✓	Large white log with light
Lat. 47° 30' 09" ✓ Long. 122° 12' 41" ✓	10a 3/15/56	45 ft. (NP)	White nun buoy
Lat. 47° 30' 42" ✓ Long. 122° 12' 25" ✓	49b 3/16/56	78 ft. (NP)	Buoy marking SW corner of log storage area

The above are privately maintained by the Foss Launch & Tug Company, Seattle, Washington. ✓

LANDMARKS FOR CHARTS

The following landmarks are submitted on Form 567 attached to this report:

KENNYDALE, MILL WATER TANK (ELEVATED), 1956

CL 351 (1956)

It is recommended that the name SW Stack (Lat. 47° 30' 10" N, Long. 122° 12' 09" W) be changed to SW Stack of 3.

GEOGRAPHIC NAMES

Geographic names appearing on the smooth sheet were obtained from USC&GS Chart 6449. No new names are recommended. *Approved name list attached.*

SILTED AREAS

No silted areas were found. *See Review TP 5*

At the south end of the survey (Lat. 47° 30' 06" N, Long. 122° 12' 54" W) there is a spoil bank.

BY-PRODUCT INFORMATION

As could best be determined this is an area consisting mostly of mud bottom. There is a hard sand shoal at Lat. 47° 31' 10" N, Long. 122° 12' 46" W. As the area of this survey is much used there is probably a considerable amount of debris in the form of steel scrap, sunken logs, etc. on the bottom.

MISCELLANEOUS INFORMATION

It is recommended that the Coast Guard establish two buoys in this area; one buoy to be located at the west end of the shoal at Lat. 47° 31' 10" N, Long. 122° 12' 46" W and the other buoy to be located at the NW end of the shoal at Lat 47° 30' 05" N, long. 122° 12' 52" W.

TABULATION OF APPLICABLE DATA

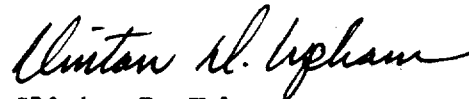
	<u>FORWARDED TO</u>	<u>DATE FORWARDED</u>
Sounding Records (2)	Washington Office	
Fathograms (a,b,c,d,e days)	Washington Office	



TABULATION OF APPLICABLE DATA (Cont'd.)

	<u>FORWARDED TO</u>	<u>DATE FORWARDED</u>
Nine Lens Aerial Photographs Nos. 17855, 17856	Washington Office ✓	Sep. 9 '46. 1:10,000
Landmarks For Charts Form 567 appended to this report	Washington Office ✓	
Triangulation Report and List of Geographic Positions	Washington Office ✓	
Hand templets of Photos Nos. 17855, 17856	Washington Office ✓	

Respectfully Submitted,



Clinton D. Upham  
LTJG., USC&GS

APPROVED AND FORWARDED:



L. S. Hubbard  
Captain, USC&GS  
Seattle District Officer

STATISTICS

HYDROGRAPHIC SURVEY H-~~824~~11 (Field No. NW-1156)

<u>Day Letter</u>	<u>Date</u>	<u>Vol. No.</u>	<u>No. of Positions</u>	<u>Statute Mi. of Sdg. lines</u>
a	3/15/56	1	89	8.4
b	3/16/56	1	104	12.8
c	3/19/56	2	114	11.4
d	3/20/56	2	15	1.0
e	3/21/56	2	<u>89</u>	<u>6.9</u>
		Total	<u>411</u>	<u>40.5</u>

Area Surveyed: 0.7 Square Statute Miles

TIDE NOTE

HYDROGRAPHIC SURVEY H-~~8214~~ (Field No. NW-1156)

For the purpose of obtaining tide reducers for this survey, a tide staff (the zero of which was set at mean lake level) was installed at a dock in Leschi Park at Lat.  $47^{\circ}36'09''$  N., Long.  $122^{\circ}16'58''$  W. This tide staff was read each morning and evening while hydrographic operations were in progress.

No correction was made for time or height differences.

GEOGRAPHIC NAME LIST

HYDROGRAPHIC SURVEY H-82W (Field No. NW-1156)

Black River  
Bryn Mawr  
Cedar River  
Coleman Point  
Kennydale  
Lake Washington  
Mercer Island  
South Point

ABSTRACT OF FATHOMETER CORRECTIONS

HYDROGRAPHIC SURVEY H-8214 (Field No. NW-1156)

Fathometer No. 46, Launch PF-4

"A" Scale "B" Scale "C" Scale

From 0.0 to 18.5 ft	+ 0.2			
41.0	0.0	+ 0.4		
51.5	- 0.2	+ 0.2		
60.5	- 0.4	0.0		
68.5	- 0.6	- 0.2		
77.0	- 0.8	- 0.4	- 1.4	
86.0	- 1.0	- 0.6	- 1.6	
95.0	- 1.2	- 0.8	- 1.8	
to end	- 1.4	- 1.0	- 2.0	

LIST OF SIGNALS

HYDROGRAPHIC SURVEY H-8211, (Field No. NW-1156)

<u>Signal Name</u>	<u>Origin</u>
Abe	Two Photo Cuts, Theodolite Cuts Recorded Page 2, Vol. 1
Ack	Traverse, Recorded Page 2, Vol.1
Boe	Hydro, Recorded Pages 4 and 60 Vol. 1
Bor	Traverse, Recorded Page 2, Vol. 1
Car	Hydro, Recorded Pages 4, 7, and 8, Volume 1
COLEMAN	COLEMAN, 1956
CON	CON, 1956
Doc	Two Photo Cuts, Sextant angles, Recorded Page 60, Vol. 1
Do1	Hydro, Recorded Page 5, Vol. 1
EAST	RENTON, BOEING PLANT, NORTH EAST CORNER, 1956
Fin	Hydro, Pages 49 and 50, Vol. 1
Fos	Hydro, Recorded Pages 7 and 8, Vol. 1
Gre	Hydro, Recorded Pages 4 and 5, Vol. 2
HAM	HAM, 1956
LONE	LONE, 1956
OIL	OIL TANK, 1956
PRO	PRO, 1956
SEW	SEWER, 1956
SHUFF	SHUFF, 1956
STEVE	STEVE, 1956

LIST OF SIGNALS (Cont'd.)

<u>SIGNAL NAME</u>	<u>ORIGIN</u>
TANK	KENNYDALE, MILL WATER TANK (ELEVATED), 1956
TOW	TOWER, 1956
WEST	RENTON, BOEING PLANT, NORTH WEST CORNER, 1956
S W STACK	Traverse, Recorded Page 2, Vol. 1 (Not used as a hydro signal)

# Lake Washington Bar Checks, Launch P-4

draft = 2.6 ft.

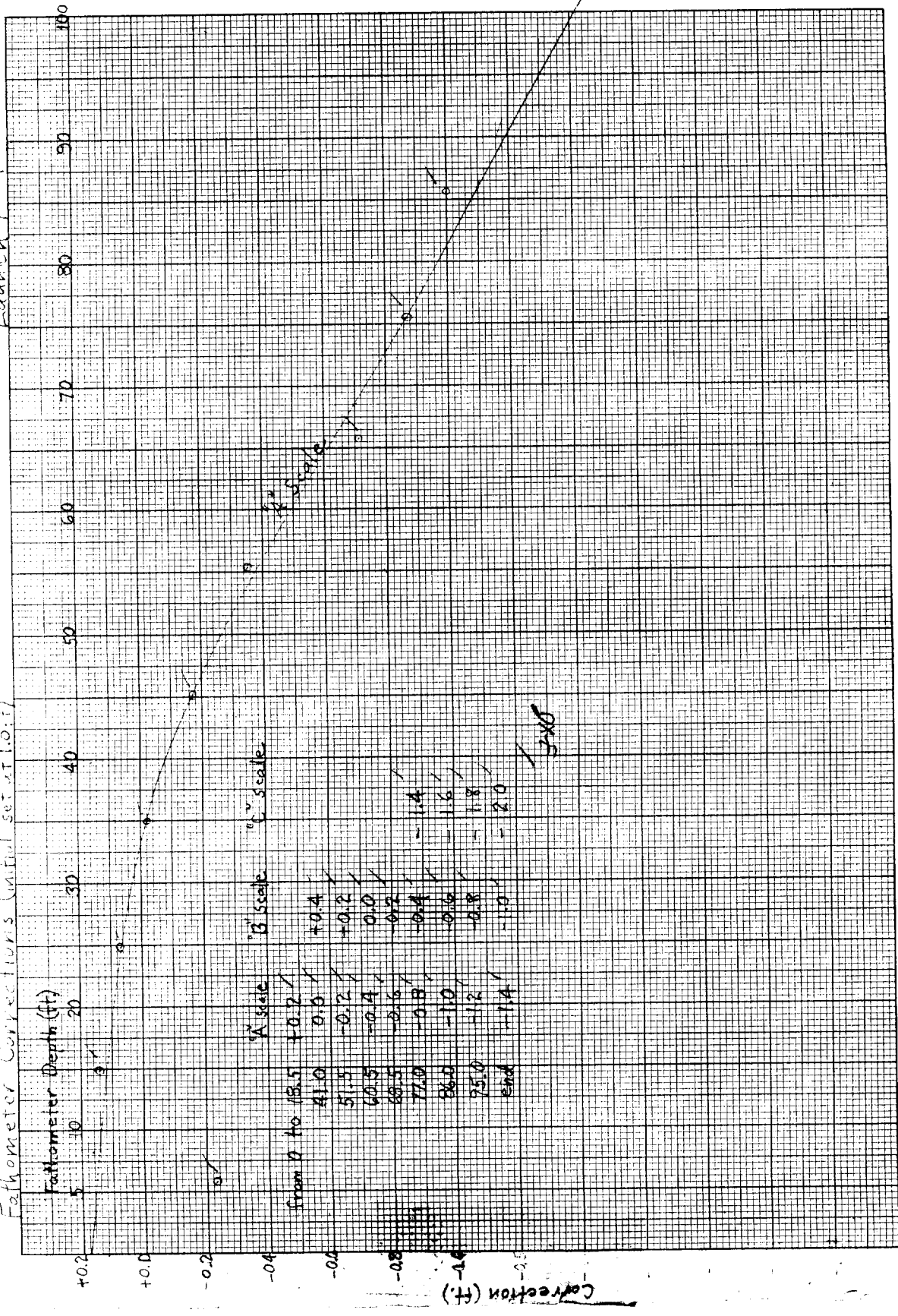
True-draft #	2.9	12.4	22.3	32.3	42.3	52.4	62.4	72.0	82.0
a day	(-2.0)R -0.1	+0.2 0.0	-0.1 -0.1	-0.1 -0.1	-0.1 -0.3	-0.2 -0.6	-1.0 -0.6	-0.8 -0.8	
b day	-0.1 +0.1 +0.5	0.0 +0.2 +0.4	-0.1 +0.3 +0.5	-0.1 +0.1 +0.3	-0.3 +0.1 +0.3	-0.4 -0.2 +0.2	-0.6 -0.6 0.0	-0.8 -0.8	-1.0 -1.0
c day	-1.1 +0.1 -0.5 -0.5	0.0 +0.4 0.0 0.0	+0.1 +0.1 +0.1 +0.1	-0.1 +0.1 -0.1 -0.1	-0.3 -0.1 -0.3 -0.3	-0.4 -0.2 -0.6 -0.4	-0.8 -0.6 -0.8 -0.8	-1.0 -1.0 -1.0 -1.0	
d day	+0.3 -0.7	+0.2 +0.2	-0.1 +0.1	+0.1 +0.1	+0.1				
e day	-0.5 -0.3	0.0 +0.2	-0.1 +0.1	-0.3 -0.1	-0.5 -0.3	-0.6 -0.4	-1.2 -0.8	-1.2 -1.2	
Sum	<sup>(12)</sup> -2.8	<sup>(13)</sup> +1.8	<sup>(13)</sup> +0.9	<sup>(13)</sup> -0.3	<sup>(13)</sup> -2.0	<sup>(14)</sup> -3.8	<sup>(14)</sup> -7.8	<sup>(14)</sup> -9.6	<sup>(15)</sup> -2.0
Mean	-0.23	+0.14	+0.07	-0.02	-0.17	-0.35	-0.71	-0.87	-1.0
draft + 2.6	3.13	12.26	22.23	32.32	42.47	52.75	63.11	72.87	83.0
Fath. depth	5.73	14.86	24.83	34.92	45.07	55.35	65.71	75.47	85.60
									EXP
<u>Phase Comparison</u>					<u>Phase Comparison</u>				
A scale					"B" scale				
B scale					C scale				
Corr (A-B)					Diff.				
42.3					78				
37.2					79				
+0.5					-1.0				
+0.4					-1.0				
Average +0.4 =					-1.2				
B scale - C scale = -1.0					-1.5				
∴ A scale - C scale = -0.6					-1.0				
					-0.7				
					-1.0				
					-0.5				
					-1.6				
					-1.0				
					(-2.5)R				
					10.5				
					Aver = -1.05				
					EXP				



Lake Washington

Launch P-4

Fathometer Corrections (initial set at 10.0)



A scale	B scale	C scale
from 0 to 18.5	+0.2	
41.0	0.0	+0.4
51.5	-0.2	+0.2
60.5	-0.4	0.0
68.5	-0.6	-0.2
77.0	-0.8	-0.4
86.0	-1.0	-0.6
95.0	-1.2	-0.8
End	-1.4	-1.0

340

LANDMARKS FOR CHARTS (Cont'd.)

The charted landmark S W STACK was found to be in error by approximately 70 meters. The new position for this landmark is also submitted on Form 567 attached to this report.



GEOGRAPHIC NAMES

Survey No. H-8211

Name on Survey	Source of Name											
	A	B	C	D	E	F	G	H	K			
<u>Washington</u>												1
<u>Lake Washington</u>												2
<u>Black River</u>												3
<u>Cedar River</u>												4
<u>Bryn Mawr</u>												5
<u>Coleman Point</u>												6
<u>Kennydale</u>												7
<u>Mercer Island</u>												8
<u>South Point</u>												9
												10
												11
												12
												13
												14
<u>Leschi Park</u>												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25
												26
												27

Names approved  
7-6-56. L Heck

(tide station, not on  
this sheet)

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .8211.....

Records accompanying survey:

Boat sheets ..1...; sounding vols.? .....; wire drag vols. ....; bomb vols. ....; graphic recorder rolls ~~1~~-Envelope 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		.411..
Number of positions checked		.28..
Number of positions revised		..2..
Number of soundings revised (refers to depth only)		..0..
Number of soundings erroneously spaced		..0..
Number of signals erroneously plotted or transferred		..1..
Topographic details	Time	..2..
Junctions	Time	.....
Verification of soundings from graphic record	Time	..1..

Verification by *Gary Ater*..... Total time .59 hrs Date 6/13/58

Reviewed by *J. Evans*..... Time ..22.. Date 8/13/58

DIVISION OF CHARTS  
REVIEW SECTION - NAUTICAL CHART BRANCH  
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8211

FIELD NO. NW-1156

Washington, South End of Lake Washington

Surveyed March, 1956

Scale 1:10,000

Soundings:

Control:

808 depth recorder (mainly)  
Hand lead

Sextant fixes on  
shore signals

Chief of Party - L. S. Hubbard  
Surveyed by - F. X. Popper and J. O. Boyer  
Protracted by - C. D. Upham  
Soundings plotted by - C. D. Upham  
Verified and inked by - Gary Ater  
Reviewed by - L. V. Evans III      8/13/58  
Inspected by - R. H. Carstens

1. Shoreline and Control

The sources of shoreline and control are given in the Descriptive Report.

2. Sounding Line Crossings

Depths are in adequate agreement at crossings.

3. Depth Curves and Bottom Configuration

Depth curves are adequately defined in the surveyed area.

The bottom is smooth and even in depths greater than 60 feet, where the bottom slopes steeply to the shoreline. Irregular shoals are found in depths less than 60 feet.

4. Junctions with Contemporary Surveys

There are no adjoining contemporary surveys. Soundings at the limits of this survey are some 2 to 6 feet less than charted depths in depths of 80 to 100 feet.

5. Comparison with Prior SurveysA. H-2610 (1902) 1:10,000

This is the only previous hydrography in the area of the present survey. A comparison between the present and prior surveys shows that considerable change has taken place.

The south end of the lake has been filled artificially as much as 500-600 m. beyond the former shoreline. Although that change has caused some present shoals in areas of formerly deep water, dredging for fills has resulted in greater depths in other areas. The following comparison shows some typical changes in this area:

<u>Latitude</u>	<u>Longitude</u>	<u>Prior Depth</u>	<u>Present Depth</u>
47°30.19'	122°12.80'	34 ft.	27 ft.
47°30.14'	122°12.90'	25-46 ft.	15 ft.
47°30.08'	122°12.87'	18-49 ft.	3 ft.
47°30.26'	122°12.36'	0	15-29 ft.
47°30.12'	122°12.76'	24 ft.	48 ft.

Elsewhere there appears to have been general shoaling of 2 to 10 ft. in the area generally outside the 30-ft. curve. Although this apparent change is presumed to have been caused by deposition on the bottom at least part of the differences may well be due to penetration of the sounding lead on the prior survey in the soft bottom.

Several limited areas of log and ship storage were inaccessible for sounding by the present survey. However, the present survey is considered adequate to supersede the prior survey for charting the common area. No soundings have been carried forward in the unsurveyed areas because of the general differences between prior and present depths.

B. H-4135 (1919-20) 1:20,000 WD

This prior wire drag survey barely touches the edges of the present survey. There are no conflicts between the effective drag depths and soundings on the present survey.

6. Comparison with Chart 6449 (print date 4/29/57)A. Hydrography

Charted hydrography originates mainly with the prior surveys, supplemented by incomplete data from other sources showing the artificial changes at the south end of the lake. The 2 shoals discussed on p. 4 of the Descriptive Report have been charted from the advance report from the field party (CL 350, 1956).

The present survey supersedes the charted hydrography. The log and ship storage areas should be designated on the charts and appropriately labeled to indicate the lack of soundings therein.

B. Aids to Navigation

The only aids to navigation within the limits of this survey are the 10 privately maintained buoys, listed on p. 5 of the Descriptive Report, which mark log-storage areas. Several buoys are shown which are not charted.

Attention is called to the field party recommendation, on p. 6 of the Descriptive Report, concerning marking of 2 shoals.

7. Condition of Survey

A. The field records are complete and comprehensive.

B. The smooth plotting was well done.


8. Compliance with Project Instructions

This survey, not part of a standard project, complies with the intent of the Director's letter of authorization, 15 November 1955, 22/MEK, D-1-NW.

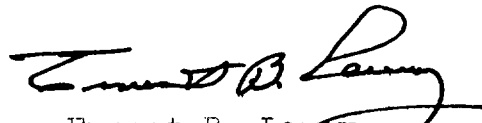
9. Additional Field Work Recommended

As a matter of record, attention is called to the areas of log and ship storage where soundings could not be obtained. Except for those inaccessible areas the balance of the survey is basic and requires no additional field work.

Examined and approved:



Max G. Ricketts  
Chief, Nautical Chart Branch



Ernest B. Levey  
Chief, Division of Charts



Karl B. Jeffers  
Chief, Hydrography Branch



Samuel B. Grenell  
Chief, Division of Coastal Surveys



RHC

# TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Coastal Surveys~~

28 June 1956

Division of Charts: R. H. Carstens

Plane of reference approved in  
2 volumes of sounding records for

HYDROGRAPHIC SHEET 8211

Locality Lake Washington, Washington

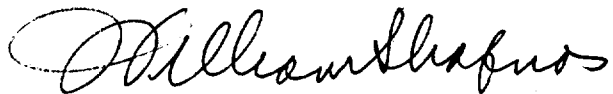
Chief of Party: L. S. Hubbard in 1956

Plane of reference is Lake Washington datum (mean regulated lake level)

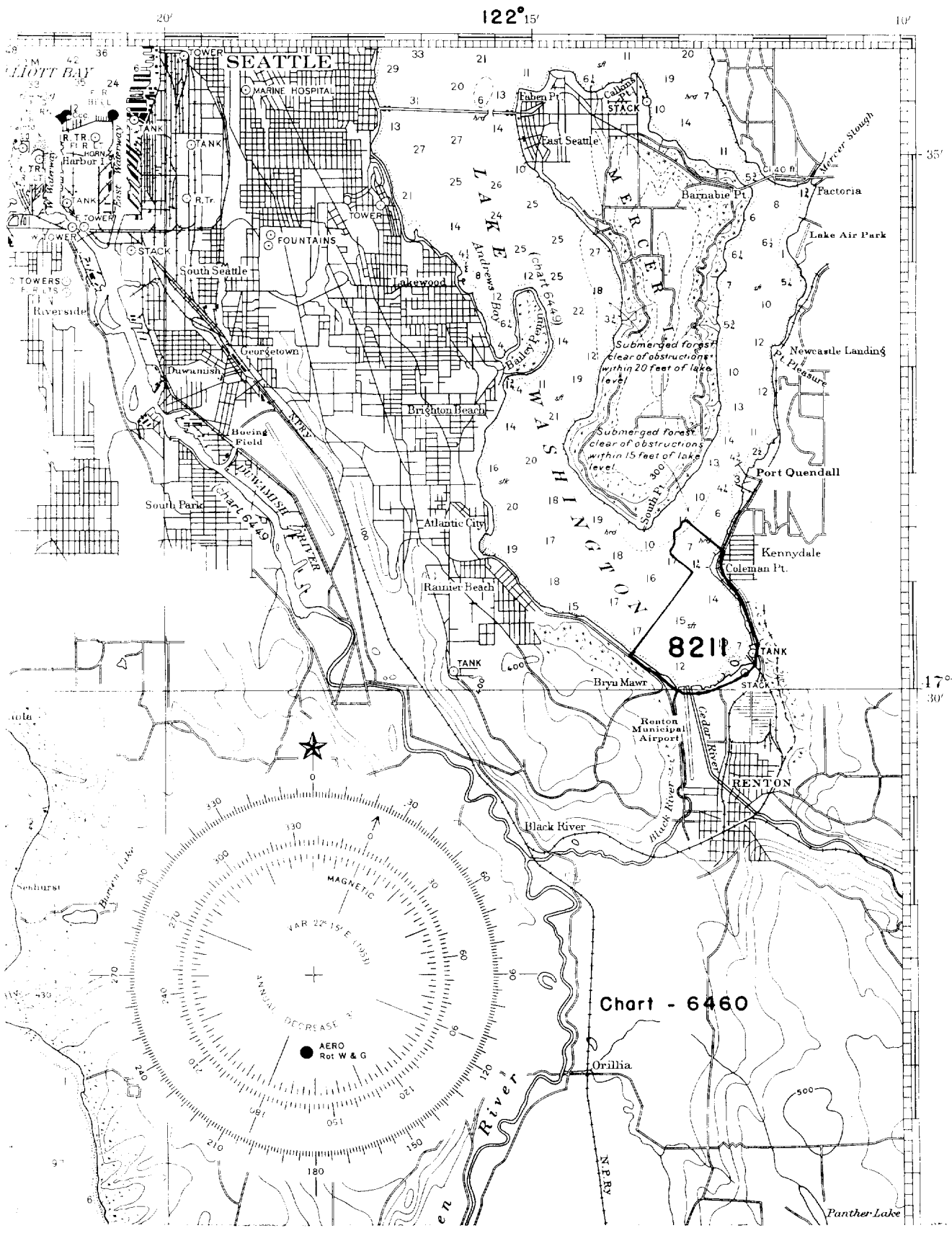
0.0 ft. on tide staff at Leschi Park

17.7 ft. below B. M. 4 (1944)

Condition of records satisfactory except as noted below:



Branch  
Chief, ~~DIVISION OF~~ Tides and ~~CURRENTS~~



122° 15'

10'

35'

17° 30'

8211

Chart - 6460

AERO  
Rot W & G

Panther Lake

# NAUTICAL CHARTS BRANCH

SURVEY NO. H-8211  
 Reviewed Aug. 13, 1958  
 Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
6-25-56	6401	R. K. de Lawden	<del>Part. appl.</del> Before <del>After</del> Verification and Review Rev. 1/4 fm To 1/2 fm adg W of Kenneydale
7-10-56	6460	J. Walker	Before <del>After</del> Verification and Review Partially
4-29-59	6449	John M. McAlinden	<del>Before</del> After Verification and Review Completely applied
9-14-59	6401	A. J. Hoffman	Completely applied thru Ch. 6449. <del>Before</del> After Verification and Review <span style="float: right;">#12</span>
4-12-60	6460	R. K. de Lawden	<del>Before</del> After Verification and Review Thru Ch 6449.
			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
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			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.