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Diag. Chy. No. 6460-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

Superintendent.

State: Wash.

DESCRIPTIVE REPORT.

Hyd., Sheet No. 3372

LOCALITY:

Head of Seattle Harbor, East & West Waterways and Harbor Is., Elliott Bay

1912

CHIEF OF PARTY:

~~J. F. Pratt~~

11—4645

R. S. Patton

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DESCRIPTIVE REPORT TO ACCOMPANY SEATTLE HYDROGRAPHIC SHEET,

EAST AND WEST WATERWAYS AND HARBOR ISLAND, ELLIOTT BAY, WASHINGTON.

DATE OF SURVEY-

The hydrography in the East and West Waterways and off Harbor Island, Elliott Bay, Washington, was executed on a scale of 1/5000 between April 24th and June 8th, 1912, by the Steamer Explorer party.

The work was somewhat delayed by unfavorable weather conditions, and urgent ship's work prevented the party from working continuously.

CHARACTER AND EXTENT OF THE SURVEY-

With the exceptions noted under Difficulties Encountered, the survey is complete.

The work covers both waterways and off Harbor Island from the eastward extension of the East Waterway to the elevator of the Carbon Hill Coal Co. at West Seattle. In the waterways the sounding lines are spaced approximately 15 meters and off the island the 20-fathom curve is developed by a 50-meter system. Soundings were made off the faces of unoccupied docks where possible.

DIFFICULTIES ENCOUNTERED-

Vessels and tows under way in the East Waterway interfered with the running of lines on range, it being necessary to turn out frequently or to abandon a line temporarily.

Log-rafts and booms, floating shacks and driven piles prevented

soundings from being taken in some areas. Soundings were made from rafts where stability was assured.

It was impracticable, at this time, to sound in the vicinity of the wharves and docks on the east side of the East Waterway on account of their being occupied almost continuously by vessels, in some cases the vessels being moored two and three abreast.

Wind and currents added somewhat to the difficulty of the work.

SHOALS-

A small rocky patch, partly bare at low water, exists about midway between the 3 and 5-fathom curves, 92 meters N.39° W.(true) from the N.W. edge of the wharf located about midway on the north side of Harbor Island.

A 4-fathom (unreduced) spot, soft bottom, of small extent, exists just inside the 10-fathom curve, 210 meters N.34° 30' W. (true) from the N.W. corner of Harbor Island. This is probably the result of dumping dredged material.

As shown by the depth-curves the water is shoal off the N.E. 'd corner of the island on the bay side; also in the W.'d half of the entrance to the West Waterway, where a rocky and muddy ridge, partly bare at low water, projects in an E.'ly and W.'ly direction. This latter is of small area and within the 1-fathom curve.

NOTE- The bearings and distances here given are from the boat sheet and are liable to be somewhat in error.

DRY AREAS-

The entire western part of the West Waterway bares at low water.

CURRENTS-

A strong current runs in both waterways at ebb tide and continues to run for some considerable time after the change. The flood current is much less pronounced and of shorter duration.

Within the waterways the currents set fair with the channel, but off the entrances there is an apparent E.'ly trend.

COMMERCIAL IMPORTANCE OF THE WATERWAYS-

The entire east side of the East Waterway is taken up with plants representing a diversity of commercial pursuits. The West Waterway is of less importance, the principal plant being a large flouring mill.

TRAFFIC IN THE WATERWAYS-

There is considerable traffic in the East Waterway at all times by large vessels and small craft. Many oil-burning steamers take on fuel at the Standard Oil Co's tanks just inside the entrance to this waterway on the east side.

Many net-fishermen ply their trade on a small scale near the S'd end of the East Waterway.

The West Waterway's traffic is light. An occasional large steamer calls at the flouring mill for flour or grain, and some small craft tow logs, fertilizer material, etc.

A draw bridge at the S'd end of the West Waterway allows vessels of light draft to enter the Duwamish River, the east approach only being available for use, the other side being blocked by driven, broken and sunken piles.

LOCATION OF BUOYS IN ELLIOTT BAY-

Advantage was taken during the development of the 20-fathom curve to re-locate the seven mooring buoys in Elliott Bay.

TIDAL REFERENCE-

Soundings on this sheet arereferred to the automatic tide gauge at Seattle.

GENERAL REMARK-

The depths are somewhat irregular in places in both waterways, due to dredging by private parties to suit their own conveniences as regards depths. This remark is based on hearsay only, there being no means of verification.

Respectfully submitted:

A. L. Giacomini,

Watch Officer,

C.and G.Survey.

Approved:

R. S. Patton,

Assistant, C.and G.Survey,

Chief of Party,

Commanding.

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STATISTICS FOR SEATTLE HYDROGRAPHIC SHEET.

EAST AND WEST WATERWAYS AND HARBOR ISLAND, ELLIOTT BAY, WASHINGTON.

Date 1912	Letter	Vol.	Positions	Soundings	Miles Statute	Vessels
April 24	a	1	70	458	5.5	Whaleboat
" 25	b	1	137	627	9.3	"
" 26	c	1	78	253	4.5	"
" 27	d	1	58	166	2.0	"
May 1	e	2	112	468	9.9	"
" 4	f	2	53	219	3.8	"
" 6	g	2	113	408	6.9	"
" 8	h	2	59	209	3.6	"
" 9	i	2 & 3	97	532	6.6	"
" 10	j	3	86	314	4.5	"
" 11	k	3	49	233	2.8	"
" 14	l	3	60	113	2.1	"
" 16	m	3	91	193	3.3	"
" 28	n	4	108	232	3.8	"
June 6	o	4	14	17	0.3	"
" 7	p	4	137	250	4.9	"
" 8	q	4	100	173	2.8	"
17	Totals		1422'	4865'	76.6'	

Approx 24 h. June 8 inclusive = 40 working days

17/23

Soundings shown in feet.

VEC
July 26,1912.

HYDROGRAPHIC SHEET 3372.

Elliott Bay, Puget Sound, Washington, by Asst. R. S. Patton in 1912.

TIDES.

	Seattle. ft.
2 ft. below mean lower low water of plane of reference on staff	5.1
Lowest tide observed " "	3.1
Highest " " " "	22.2
Mean range of tide	7.7

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NOTE-

Soundings in ~~fathoms~~ feet.

Plane of reference: For Puget Sound,-- 2 feet lower than the mean of the lower low waters.

Location of gauge: Seattle automatic tide gauge.

Plane of reference, reading on gauge:	5.10 #
Lowest tide observed, reading on gauge:	3.10 #
Highest tide observed, reading on gauge:	22.20 #

From Seattle Sub-Office data.

A. L. L.

Hyd Sheet No 3372 Oct. 1, 1912.

The area within the limits of the survey is well covered

The sounding records were kept in a satisfactory manner

H. R. Simmons

Verified; Oct 1912.

As directed, the soundings were not plotted quite as close as customary on Hyd sheets, therefor some were added, and the bottoms put on in the verification R.L.J.