

4303

Diag. Cht. No. 1204-2

Form 504

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

State: Maine

21-5813

DESCRIPTIVE REPORT.

Hydrog Sheet No. 4303

LOCALITY:

Cape Elizabeth

Trundy Pt. to Wood I.

23
191

CHIEF OF PARTY:

O.W. Swainson

4303

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC

SHEET "A"

The area covered by hydrographic sheet "A" embodies inshore hydrography from Cape Elizabeth, Maine, to Wood Island Maine.

This survey was made in accordance with instructions issued under the date of June 2, 1923 to Lt. O.W. Swainson, Chief of Wire Drag Party No. 1.

The work began the last of June 1923 and was carried to Stratton Island. Saco Bay was not developed until the base was moved to Biddeford Pool owing to the distance the working grounds were from the base at Portland. The hydrography was finally finished in October.

CONTROL

Two old stations, Jordan Island₂ and Cape Elizabeth east light, established in 1905 and 1903 respectively, were recovered and with this line as the diagonal of a quad, other natural objects were located as tertiary triangulation stations.

There is no topographic sheet, such signals indicated as topographic stations were established by plane table and cut in and later transferred to this sheet. Description and position of these stations are forwarded separately.

SOUNDINGS

All offshore lines of soundings were carried approximately to the twenty fathom curve.

All leading aft soundings have been plotted as "no bottom" soundings by a reduction of one fathom in five throughout the depth of the sounding .

SOUNDINGS (cont)

Two differently weighted leads were used in the work namely an eight pound and a twelve pound lead.

All soundings were taken with a hand line by two experienced men who took turns in heaving the lead. Both men read the sounding and thus checked each other as to the depth.

CROSS SOUNDINGS

Four lines of cross soundings were run to determine discrepancies in the work and were found to check the other lines of soundings very satisfactorily.

INSHORE DANGERS

All shoals, with two exceptions, either buoyed or charted, were proved and found to be in the ^{approximate} correct location as located by past surveys.

No five foot shoal could be found as is indicated on the chart to the northwest of Ram Island, located in Richmond Island Harbor, (chart 327)

No indication of the thirty-six foot sounding shown on the chart at lat. $43^{\circ} 31'$ and long. $70^{\circ} 15'$ was found.

CURRENTS

Currents were not studied during the hydrography of this area but it was noticeable that a strong current set offshore from Cape Elizabeth to Taylors Reef buoy on the ebb tide.

SHOAL DEVELOPMENT

As the hydrography was mainly for the purpose of control for the wire drag work, no shoal development was executed.

TIDES

Reduction for the tides were obtained through the use

TIDES (cont)

of automatic tide gauges located at Old Orchard, Portland and Biddeford Pool. This was supplemented by a staff located at Richmond Island Harbor and read by a tide observer every half hour at least. All the new stations were tied in with Portland by simultaneous observations.

LOCATIONS

The location of the Old Orchard Tank and ~~Old Orchard Pier~~ do not agree to that as shown on the charts. Old Orchard Tank seems to be about thirty meters too far to the west of the position as established by this party.

K.G.Crosby D.O.

U.S.Coast & Geodetic Survey

Forwarded:

O.W. Swainson

STATISTICS FOR HYDROGRAPHIC SHEET NO. "A"

DATE 1923	LETTER	VOLUME	POSITIONS	SOUNDINGS	MILES STATUTE	VESSELS	TIDES	REMARKS
July 2	A	1	32	93	4.0	RODGERS	R.I. (Rich. Id)	
July 3	B	1	60	157	14.0	"	"	
July 6	C	1	75	204	15.5	"	"	
July 9	D	1	72	198	24.5	"	"	
July 10	E	1	70	197	24.25	"	"	
July 18	F	2	44	104	12.0	"	"	
Aug. 17	G	2	137	500	16.5	A - 97	"	
Aug. 28	H	2	31	79	5.0	OGDEN	Portland	
Sept. 5	J	2	65	238	23	RODGERS	Old Orchard	
Sept. 12	K	3	84	300	14.25	OGDEN	Bidd. Pool	
Sept. 13	L	3	77	310	21.5	"	"	"
Sept. 14	M	3	90	351	24	"	"	"
Sept. 17	N	4	76	313	23	"	"	"
Oct. 2	P	4	105	466	24	"	"	"
Oct. 3	Q	4	4	12	1	"	"	"
Oct. 5	R	4	51	438	13	A - 97	"	"
Oct. 25	S	4	18	69	6	OGDEN	"	"
TOTAL			1101	4029	265.50			

All soundings in feet.

Plane of reference of Rich. Id. Staff. Mean low water.

Lowest tide on " " "

Highest " " " " "

Plane of reference of Old Orchard Gauge. Mean low water.

Lowest tide on " " "

Highest " " " " "

Plane of reference of Bidd. Pool Gauge. Mean low water.

Lowest tide on " " "

Highest " " " " "

Boat sheet accompanies smooth sheet.

Hyd. Sheet. No 4303

As the hydrography in this area was done mainly for the purpose of furnishing a base for a wire drag survey, the developement is not as complete as probably would have been done otherwise.

On the early part of the work, not enough bottom characteristics were noted.

The records are only fairly well kept as there are a number of discrepancies in the time record.

The sheet has been very well protracted but poorly plotted. Soundings and position numbers were not correctly oriented and the soundings were poorly spaced. Holes should not be pricked in the sheet at points where intermediate soundings plot.

Shoal soundings discovered with the wire drag have been transferred to the sheet and are shown in blue.

R L Johnston

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

WASHINGTON

June 26, 1924.

SECTION OF FIELD RECORDS

Report on Hydrographic Sheet No. 4303

Cape Elizabeth, Maine

Surveyed in 1923

Instructions dated June 2, 1923.

Chief of Party, O. W. Swainson.

Surveyed by O. W. Swainson.

Protracted and soundings plotted by K. G. Crosby.

Verified and inked by R. L. Johnston.

1. The records conform to the requirements of the General Instructions except that bottom characteristics are generally omitted and there are a number of discrepancies in time records.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and character of development satisfy the specific instructions.
4. The sounding line crossings are adequate considering the irregular character of the bottom.
5. The information is sufficient for drawing the usual depth curves.
6. The field plotting was completed to the extent prescribed by the General Instructions. The protracting was well done, but soundings and position numbers were not correctly oriented, position numbers and letters too large and carelessly inked and holes were pricked for intermediate soundings.
7. The junction with the adjacent sheet is satisfactory.
8. The area covered by this sheet has been dragged over by wire drag sheet 4307, hence no further surveying is required.
9. The character and scope of the surveying are good and the field drafting is fair.
10. Reviewed by E. P. Ellis, June, 1924.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4303

State . . . Maine

Cape Elizabeth

General locality . . . Portland

Trundy Pt

Locality . . . Cape Elizabeth to Wood Island

Chief of party . . . Lt. O.W. Swainson

Surveyed by . . . Wire Drag Party No. 1

Date of survey . . . July . . to October. 1923

Scale 1/20,000

Soundings in . . feet

Plane of reference . . mean low water

Protracted by . K.G.C. . Soundings in pencil by K.G. Crosby

Inked by . ~~K.G.C.~~ ^{R.L.G.} . . . Verified by . . ~~F.L. Gallon~~ ^{R.L.G.} . . .

Records accompanying sheet (check those forwarded):

- Des. report, Tide books, Marigrams, Boat sheets,
- Sounding books, Wire-drag books, Photographs.
- Data from other sources affecting sheet

Remarks: The above tidal data forwarded November 26 and 28, 1923.