

4850

Diag. Sheet No. 1206-2

b

Form 504  
 DEPARTMENT OF COMMERCE  
 U. S. COAST AND GEODETIC SURVEY

State: Massachusetts

11-5613

DESCRIPTIVE REPORT.

Hydrographic Sheet No. 3 **4850**

LOCALITY:

Rockport Harbor, Cape Ann

1923

CHIEF OF PARTY:

Raymond F. Eymann

4850

## DESCRIPTIVE REPORT

to accompany

### HYDROGRAPHIC SHEET #3

ROCKPORT HARBOR,<sup>34</sup> MASSACHUSETTS.

#### (1) Authority

This survey was made under instructions from the Director dated May 22, 1928 to Raymond P. Eymann, Chief of Party, Gloucester Shore Party.

#### (2) Limits and Extent

The hydrography on this sheet is confined to the Rockport inner harbor and immediate approaches, the old basin known locally as the Whiting dock, and an examination for the exact location and least water on the rock ~~and~~ between the breakwater and the spar buoy.

#### (3) Scale

In order to adequately control the work, the sheets (both boat and smooth) were laid out on a 1 to 5000 scale.

#### (4) Survey Methods

All signals used on this sheet were transferred from topographic sheet "C", or were old triangulation points. In the old basin the points referred to as A, B, C, etc. were definite points on the old sea wall and are shown in the front of the sounding record volume.

In the old basin, the inner harbor, and around the rock soundings were obtained in the usual manner from a small skiff with positions fixed by sextant angles; in the approaches to the inner harbor and further development around the rock soundings were taken from launch #65 with the usual sextant fixes.

The work on "a" day consisted of taking soundings from the docks and wharves, the party starting at some definite point and proceeding on foot and sounding at equal spaces around the docks---the time intervals for this work are more or less irregular due to frequent delays in passing obstructions on the docks; no sextant fixes were <sup>taken</sup> on this work and all positions were referred to points on the various docks. All soundings were made with the ordinary hand lead.

#### (5) Dangers

About 120 meters to the N.E. of the Rockport breakwater beacon is a rock with but 2 feet of water at M.L.W.; this rock lies about on line with the beacon and the red spar buoy #4; the channel proper lies to the southward and eastward of this rock.

In the entrance to the old basin the north side of the breakwater has deteriorated and much of the rip rap extends into the channel making the latter very narrow; however this basin is used but very little and only by local fishermen.

(6) Channels

In the inner harbor a depth of 12 feet can be carried to the outside face of the Tee dock. The remainder of the Tee dock and the two other docks have but very little or no water alongside at low water; in some cases boats and fairly large schooners have been brought alongside the northern side of Tee dock at high tide and allowed to rest on the mud bottom. The old basin practically goes dry at low water. The approach to the inner harbor is very deep compared to the depth inside.

(7) Anchorage

A number of small boats find anchorage almost anywhere in the middle of the inner harbor, but this is reputed to get quite rough in bad easterly weather.

(8) Comparison with previous surveys

The work on this sheet was compared with a section of hydrographic sheet #2602 and found to check closely with the exception of the entrance to the harbor, which of course has been improved since the original survey; also the location of the rock above referred to is somewhat different; the old sheet shows a rock that bares a few meters to the southwestward of the location of the least water shown on the current sheet; this is believed to be in error as this entire vicinity was closely observed and no rocks other than shown was to be seen.

(9) Conclusion

Accompanying this report is a table of statistics, a tide data sheet, and a table of tide reducers.

Respectfully submitted,

*Raymond P. Egan*  
Raymond P. Egan, H. & G. E.  
Chief of Party.

STATISTICS SHEET #3  
Rockport Harbor, Massachusetts

Date 1928	Letter	Volume	Positions	Soundings	Miles Statute	Boat
Oct. 1	a	1	25	118	0.6	on foot
" 2	b	1	153	531	4.6	dinghy & launch
" 3	c	1	37	68	1.8	launch
Total	3	1	215	717	7.0	

Area 0.1 sq. mi.

TIDE DATA SHEET

Sheet #3      BOAT; Launch & dinghy

GAUGE USED; Plain staff

LOCATION OF GAUGE; Outer face of Tee wharf.

LEVELS

Bench Mark	#2	#5	#9	#10	#11	#12	#13
Elevation above "0" of tide staff.	35.770	34.428	23.258	23.643	27.003	42.355	64.929

TIDE PLANES

READINGS ON STAFF

Highest tide observed (old series)	17.68
Mean High Water	13.99
Mean Half Tide Level	9.70
Mean Low Water	5.40
Lowest tide observed (old series)	2.18
Mean range	8.59

Staff.

15  
9.6  
9.5  
9.4  
9.3  
9.2  
9.1  
9.0  
8.9  
8.8  
8.7  
8.6  
8.5  
8.4  
8.3  
8.2  
8.1  
8.0  
7.9  
7.8  
7.7  
7.6  
7.5  
7.4  
7.3  
7.2  
7.1  
7.0  
6.9  
6.8  
6.7  
6.6

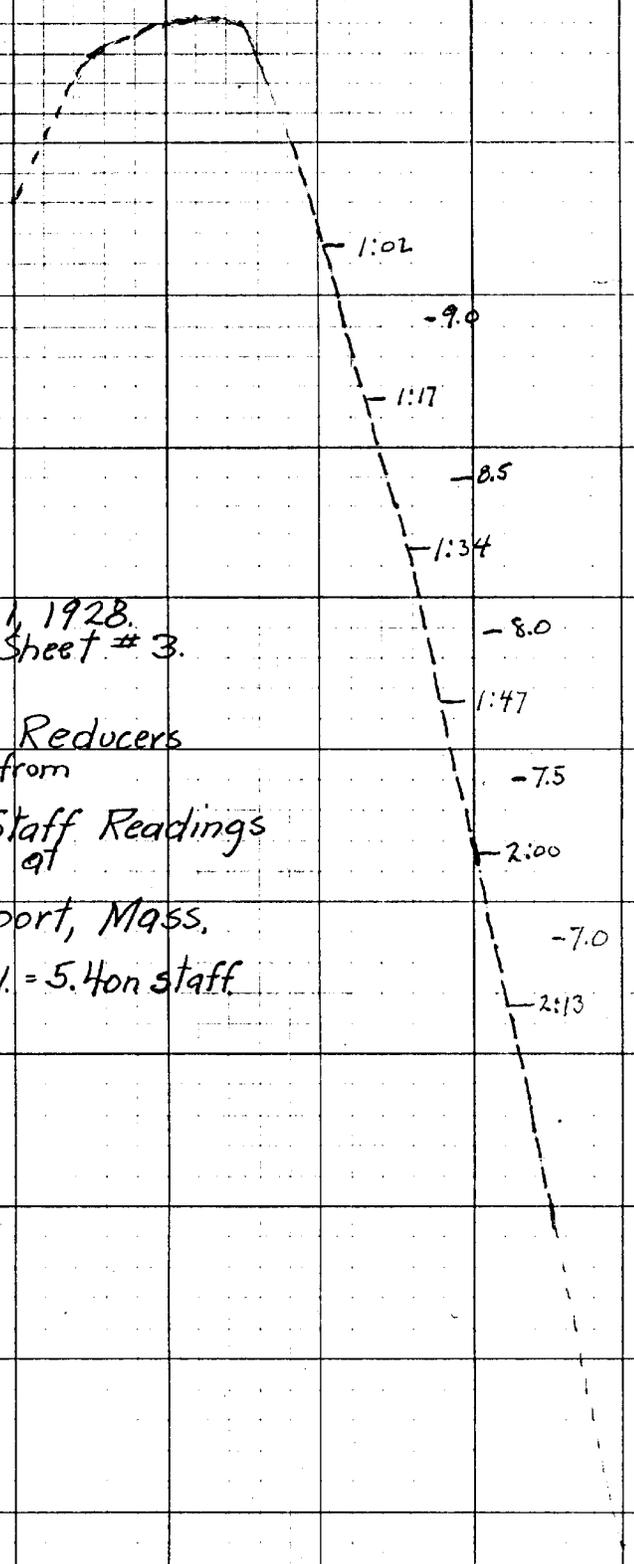
14

13

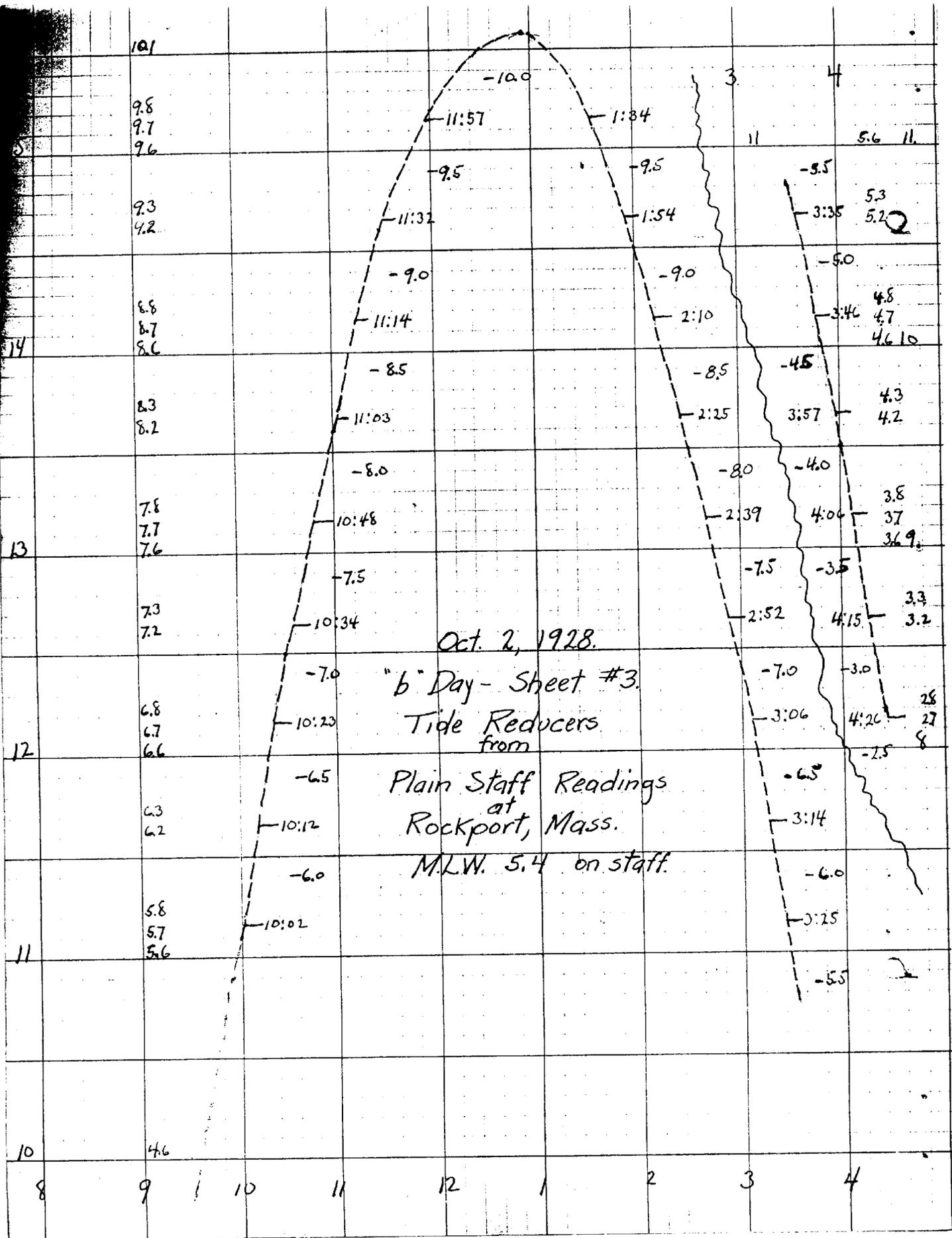
12

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Oct. 1, 1928.  
a. Day - Sheet # 3.  
Tide Reducers  
from  
Plain Staff Readings  
at  
Rockport, Mass.  
M.L.W. = 5.4 on staff.



12 1 2 3

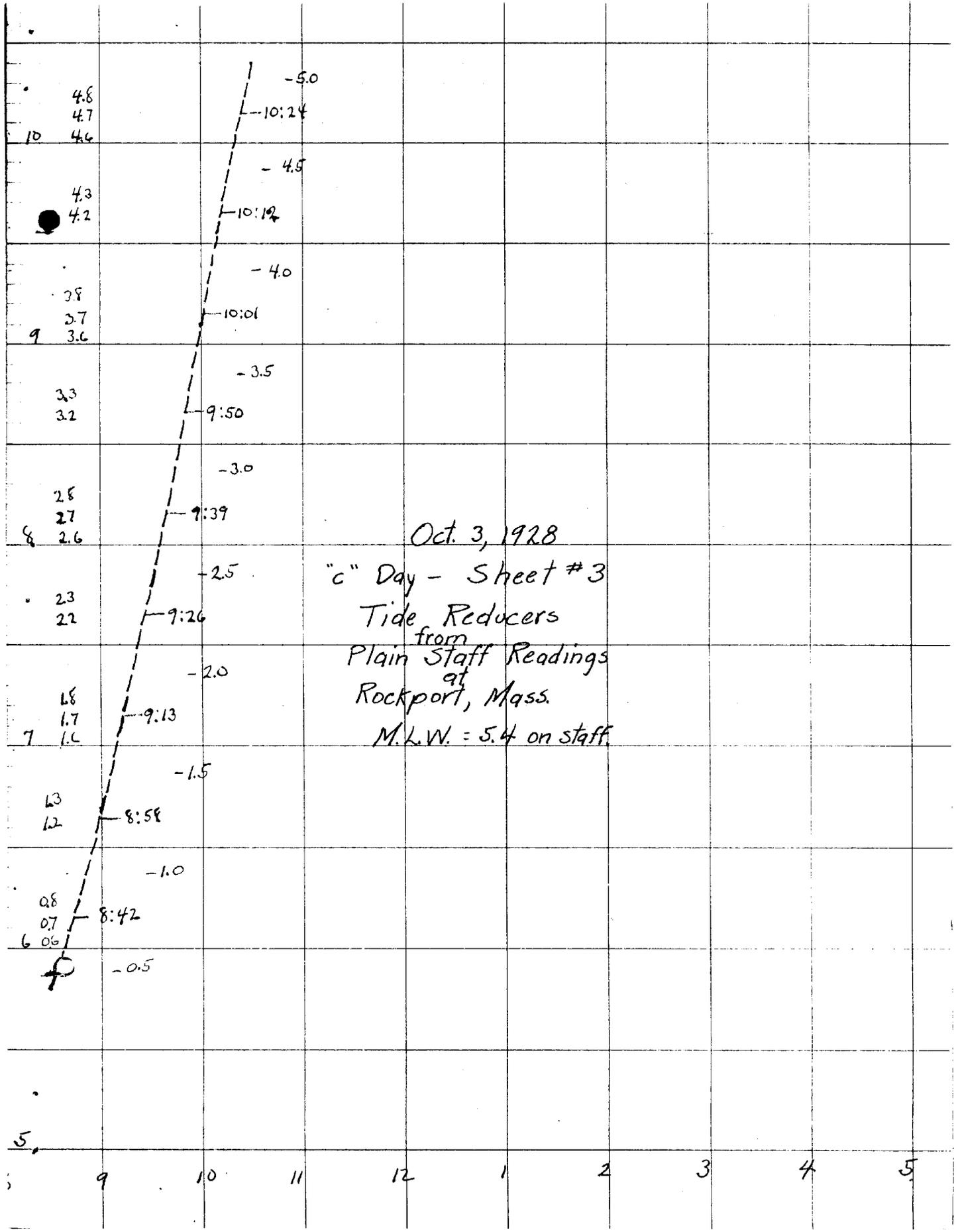


Oct. 2, 1928.

"b" Day - Sheet #3.  
Tide Reducers  
from

Plain Staff Readings  
at  
Rockport, Mass.

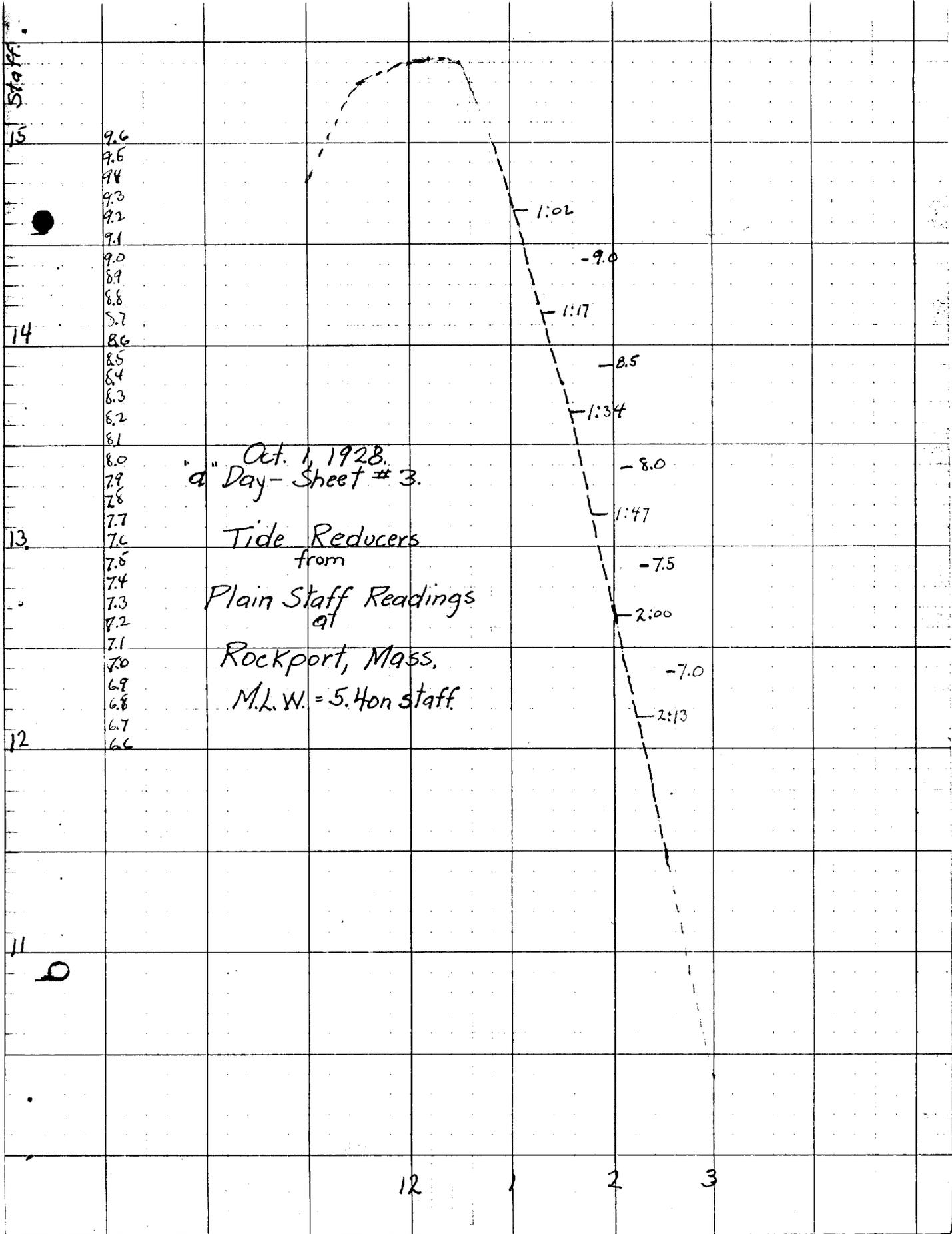
M.L.W. 5.4 on staff.



Oct. 3, 1928  
 "c" Day - Sheet #3  
 Tide Reducers  
 from  
 Plain Staff Readings  
 at  
 Rockport, Mass.  
 M.L.W. = 5.4 on staff

4.8  
 4.7  
 10 4.6  
 4.3  
 4.2  
 3.8  
 3.7  
 9 3.6  
 3.3  
 3.2  
 2.8  
 2.7  
 8 2.6  
 2.3  
 2.2  
 1.8  
 1.7  
 7 1.6  
 1.3  
 1.2  
 0.8  
 0.7  
 6 0.6  
 0.5

9 10 11 12 1 2 3 4 5



Mar. 19, 1929

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in  
1 volume of sounding records for

HYDROGRAPHIC SHEET 4850

Locality: Rockport Harbor, Mass.

Chief of Party: R. P. Eymen in 1928  
Plane of reference is Mean Low Water, reading  
5.4 ft. on tide staff at Rockport, Mass.

~~5.4 ft. below M.L.W.~~

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

*H. J. Hammer*  
Chief, Division of Tides and Currents.

# Sections of Field Records

Report on sheet No. 4850

Surveyed in, 1928 - Instructions dated May 1928

Chief of Party - Raymond P. Eymann

Surveyed by - Raymond P. Eymann

Protracted by - Raymond P. Eymann

Soundings plotted by - Raymond P. Eymann

Verified and inked by - J. H. Hunch

1. The records conform to the requirements of the general instructions.
2. The field protracting tested was found to check in all instances but one, which was position 376.
3. The usual depth curves can be completely drawn.
4. The office draftsman did not have to do over any part of the drafting done by the field party.
5. The field drafting ~~was~~ <sup>was</sup> completed to the extent prescribed by general instructions for field work.
6. Remarks:-

It appears that between the positions 9 13 and 12 on letter "c" day, and 12.8 and 12.7 on letter "b" day that a few more soundings should have been taken to fully develop this small area.

As stated in the descriptive report for this sheet the position of the last soundings

H-4850 Cont'd.

(position 14 letter "c" day) does not agree with the position of a rock shown ~~on~~ <sup>on</sup> the sheets of the original survey, and in this same vicinity. As this entire vicinity was closely <sup>without being seen</sup> observed by the field party and since they found no other rocks except the one shown, the office draftsman did not transfer the position of the rock shown ~~on~~ <sup>on</sup> the sheets of the original survey to this sheet.

Respectfully submitted  
Joseph H. Church

Section of Field Records  
Report on Hyd. Sheet No. 4850  
Rockport Harbor, Mass.  
Surveyed in 1928

Instructions dated May 22, 1928 (R.P. Eyman)

Chief of Party - Raymond P. Eyman

Surveyed by - Raymond P. Eyman

Protracted and plotted by - Raymond P. Eyman

Verified and inked by - J. H. Church

1. The records conform to the requirements.
2. The plan and character of development conform to the requirements of the General Instructions.
3. The plan and extent of the survey satisfies the specific instructions.
4. The sounding line crossings are satisfactory.
5. The information is sufficient for drawing the usual depth curves.

6. The junction with the old work is satisfactory. A least depth of 2 feet was obtained on the rock 120 meters N.E. of the breakwater beacon (Sig. Beck). H. 2602 shows a rock awash in almost the same position, while the old topographic sheet, 7.341, also shows a rock awash. The chief of party believes this to be in error. This rock should be verified on H. 2602, but the records of this sheet are not available at this time. As there was only two feet of tide at the time of this examination, it is improbable that the rock could have been missed and the 2 foot sounding is believed to be the shoalest depth. However the entire area from the breakwater to the buoy should have been examined. <sup>Chief of Party states that while making the examination launch drifted to breakwater & soundings taken with staff & is confident no rock awash exists in this vicinity.</sup>

7. The usual amount of field plotting was well done by the field party.

8. Character and scope of surveying - good

9. No additional work is recommended.

Reviewed by R. L. Johnston

April 17, 1929.

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DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 4850

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 3

REGISTER NO. 4850

State Massachusetts

General locality Cape Ann

Locality Rockport Harbor

Scale 1:5000 Date of survey October /-3, 1928

Vessel U. S. C. & G. S. L. #65

Chief of Party Raymond P. Eymann, H. & G. E.

Surveyed by R. P. E.

Protracted by R. P. E.

Soundings penciled by R. P. E.

Soundings in ~~XXXXXX~~ feet

Plane of reference M. L. W.

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated May 22, 1928

Remarks: