

LOODUSVARADE INSTITUUDI AVALDISED  
PUBLICATIONS  
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№ 5

K. KIRDE

**TERMIINSÕIDUD EESTI  
VÄLISVETES**

**1935—1939**

**THE THALASSOLOGICAL CRUISES IN THE  
ESTONIAN SEAS IN 1935—1939**

TALLINN, 1940

## LOODUSVARADE INSTITUUT.

Loodusvarade Instituudi ülesandeks on loodusvarade, toorainete ja tootmise uurimine, samuti nendega ühenduses olevate teaduslike, tehniliste, majanduslike ja sotsiaalsete küsimuste igakülgne selgitamine. Instituut asutati 1937. aastal.

Instituudi tegevus toimub seksioonides. Seksioone on kümme: 1) geoloogia ja pedoloogia, 2) meteoroloogia, klimatoloogia ja hüdroloogia, 3) bioloogia, 4) metsanduse, 5) põlevkivi, 6) turba, 7) ehitusmaterjalide, 8) anorgaanilise tehnoloogia, 9) orgaanilise tehnoloogia ja 10) käitiste organisatsiooni ja ratsionalisatsiooni seksioon.

## NATURAL RESOURCES RESEARCH INSTITUTE

TALLINN, ESTONIA.

The Natural Resources Research Institute was founded in 1937, to investigate the potentialities of the natural resources of Estonia, and to research into the scientific, technical, economic and social problems connected with their exploitation.

The work of the Institute is divided into ten sections: 1. Geology and Soil Science; 2. Meteorology, Climatology and Hydrology; 3. Biology; 4. Forestry; 5. Oil Shale; 6. Peat; 7. Building materials; 8. Inorganic Technology; 9. Organic Technology; 10. Organization and rationalization of production.

## The Thalassological Observations in 1935.

The hydrological observations given in the preceding tables were made by the author with the assistance of Mr. J. Luhari, student of mathematics, in July and August, 1935, from s. s. "Sekstant" and "Lood", belonging to the Department of Waterways in Estonia.

The time, geographical coordinates, and depths of the observation points are given in table 1.

Table 2 gives the temperature ( $C^\circ$ ), salinity ( $S\%_0$ ), density  $\sigma_t$ , depths in metres, and the meteorological data obtained at the corresponding observation points. At the bottom of each table the following meteorological data are given: direction of the wind, force of the wind (m/sec), air temperature ( $T^\circ$ ), relative humidity ( $R\%$ ), motion of the sea ( $S=0-9$ ), and cloudiness ( $C=^0/_{10}-^{10}/_{10}$ ).

Table 3 gives the amount of oxygen (Winkler's method), the alkalinity (Rupin's method) and the pressure of carbonic acid determined after the cruise at the laboratory in Tartu by means of Krogh's apparatus<sup>1</sup>).

$O'_2$  means the amount of oxygen at saturation,  $O_2$  — the obtained oxygen, both in cc per litre.  $A$  is the alkalinity in cc per litre. In the following column  $\Theta_1$  means the pressure of  $CO_2$  determined in  $10^{-4}$  atm. The next column shows the corrected value of  $CO_2$ :

$$\Theta_t = \Theta_1 \frac{B - f}{760}.$$

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<sup>1</sup>) The Ocean Waters. By B. Helland-Hansen. Intern. Revue d. gesamten Hydrobiologie und Hydrographie. Nr. 5—6, Juli 1923.

The last column contains the real CO<sub>2</sub> pressure calculated from the formula :

$$\Theta_t = (\Theta_{t_1} - c_{t_1}) \frac{\alpha_{t_1}}{\alpha_t} + c_t .$$

Table 4 gives the temperature (c°) and the salinity (S‰) at the surface between the observation points.

Table 5 gives the observations of the transparency: m means the depths in metres at which the white enamelled round plate 60 cm in diameter was discernible from the surface.

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Tabel nr. 1.

Vaatlusajad, vaatluskohtade koordinaadid ja  
sügavused 1935. a.

The Time, Geographical Coordinates and  
Depths of the Observation Points 1935.

Nr.	Vaatlusaeg Date	$\varphi$	$\lambda$	m
1 A	4. VII 0 <sup>h</sup> 05 <sup>m</sup>	59°33'	27°47'	33
1	3. " 22 25	59 38	27 27	40
2	" " 20 15	59 47	27 05	66
3	" " 15 10	59 52	26 17	84
4	1. " 17 30	59 50	25 37	76
5	" " 14 25	59 43	25 01	106
6	13. " 11 50	59 36.5	24 21	80
7	" " 14 42	59 30	23 44	86
8	15. " 16 00	59 26	23 09	92
9	12. VIII 0 00	59 14	22 11	107
10	" " 3 30	59 05	21 52	55
11	" " 7 00	58 55.5	21 18	75
12	" " 10 30	58 30.5	21 13	95
13	" " 13 05	58 16	21 00	100
15	18. VII 9 25	57 42	21 56	26
16	" " 12 10	57 55	22 32	30
17	19. " 10 30	57 52	23 16	46
18	" " 12 55	57 55	23 50	31
19	" " 14 40	58 04	24 12	20
20	" " 18 20	58 18	24 25	8
21	17. " 13 50	58 10	23 40	29
22	" " 8 00	58 33.5	23 28	20
23	16. " 13 55	58 49	23 13	8.2

m	t°	S°/00	σ <sub>t</sub>	m	t°	S°/00	σ <sub>t</sub>	m	t°	S°/00	σ <sub>t</sub>
15	10.01	6.17	4.58	80	3.40	7.65	6.14	20	10.98	6.53	4.75
20	8.83	6.28	4.77	90	4.03	9.63	7.72	30	4.85	6.73	5.38
25	6.97	6.31	4.95	105	4.80	10.01	7.98	40	4.03	6.85	5.51
30	4.26	6.49	5.21	SSW 6.7, T=16.6°, R=94%, S=5, C=2/10.				50	3.70	6.98	5.61
40	3.15	6.73	5.42					60	3.22	7.20	5.79
50	2.75	6.93	5.58	P. 10; 1935 12. VIII 3 <sup>h</sup> 30 <sup>m</sup> φ=59°05', λ=21°52', 55 m				70	3.35	7.45	5.99
60	2.94	7.36	5.93					80	3.83	8.35	6.70
70	3.56	8.15	6.55	0	16.30	6.13	3.66	90	4.57	9.52	7.61
80	4.45	9.52	7.61	5	16.30	6.13	3.66	SW 3.4, T=17.0°, R=90%, S=3, C=0/10.			
ENE 0.5, T=16.7°, R=62%, S=1, C=2/10.				10	16.30	6.13	3.66				
				P. 8; 1935 15. VII 16 <sup>h</sup> 00 <sup>m</sup> φ=59°26', λ=23°09', 92 m				15	16.23	6.13	3.67
0	16.68	6.02	3.51					20	9.35	6.49	4.90
5	16.50	—	—	30	5.73	6.78	5.39				
10	14.96	5.88	3.69	40	4.50	6.87	5.50	0	16.91	6.62	3.92
15	12.40	5.91	4.10	50	4.50	6.89	5.52	5	16.38	6.64	4.03
20	8.15	6.31	4.86	SSW 5.6, T=17.0°, R=91%, S=5, C=0/10.				10	16.28	6.64	4.05
25	4.48	6.42	5.15					0	16.47	6.19	3.67
30	3.21	6.55	5.27	5	16.41	6.33	3.79	15	14.92	6.60	4.26
40	2.25	6.82	5.49	10	16.38	6.20	3.69	20	12.01	6.69	4.75
50	2.64	7.12	5.74	15	13.40	6.49	4.41	30	6.55	6.89	5.43
60	2.90	7.48	6.02	20	10.15	6.53	4.85	40	5.23	7.05	5.62
70	3.24	7.86	6.32	30	4.96	6.74	5.39	50	4.87	7.07	5.66
80	4.20	9.06	7.25	40	4.64	6.87	5.50	60	4.30	7.07	5.67
85	4.96	9.58	7.63	50	3.95	6.91	5.55	70	3.35	7.48	6.02
ENE 5.5, T=16.2°, R=83%, S=4, C=8/10.				60	3.34	7.09	5.70	80	3.80	8.51	6.83
				70	3.24	7.86	6.32	70	3.45	7.29	5.86
P. 9; 1935 12. VIII 0 <sup>h</sup> 00 <sup>m</sup> φ=59°14', λ=22°11', 107 m				P. 11; 1935 12. VIII 7 <sup>h</sup> 00 <sup>m</sup> φ=58°55'.5, λ=21°18', 75 m				SSW 1.8, T=17.5°, R=93%, S=2, C=2/10.			
5	16.35	6.11	3.63	5	16.41	6.33	3.79	P. 15; 1935 18. VII 9 <sup>h</sup> 25 <sup>m</sup> φ=57°42', λ=21°56', 26 m			
10	16.20	6.13	3.68	10	16.38	6.20	3.69				
15	13.35	6.24	4.22	15	13.40	6.49	4.41	0	17.06	6.00	3.42
20	10.20	6.51	4.83	20	10.15	6.53	4.85	5	17.02	6.02	3.45
30	6.95	6.64	5.21	30	4.96	6.74	5.39	10	13.65	6.38	4.28
40	5.43	6.73	5.36	40	4.64	6.87	5.50	15	9.68	6.71	5.03
50	4.00	6.83	5.50	50	3.95	6.91	5.55	20	7.26	6.87	5.36
60	3.45	6.98	5.61	60	3.34	7.09	5.70	24	7.05	6.87	5.38
70	3.40	7.16	5.76	70	3.45	7.29	5.86	SW 8.1, T=16.5°, R=85%, S=4, C=10/10.			
P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m				0	16.30	6.46	3.91				
				0	16.40	6.09	3.62	5	16.12	6.46	3.94
5	16.35	6.11	3.63	10	16.00	6.46	3.96				
10	16.20	6.13	3.68	15	15.17	6.47	4.12				
15	13.35	6.24	4.22	P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m							
20	10.20	6.51	4.83					0	16.30	6.46	3.91
30	6.95	6.64	5.21	5	16.12	6.46	3.94				
40	5.43	6.73	5.36	10	16.00	6.46	3.96				
50	4.00	6.83	5.50	15	15.17	6.47	4.12				
60	3.45	6.98	5.61	P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m							
70	3.40	7.16	5.76					0	16.30	6.46	3.91
P. 9; 1935 12. VIII 0 <sup>h</sup> 00 <sup>m</sup> φ=59°14', λ=22°11', 107 m				5	16.12	6.46	3.94				
				0	16.40	6.09	3.62	10	16.00	6.46	3.96
5	16.35	6.11	3.63	15	15.17	6.47	4.12				
10	16.20	6.13	3.68	P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m							
15	13.35	6.24	4.22					0	16.30	6.46	3.91
20	10.20	6.51	4.83	5	16.12	6.46	3.94				
30	6.95	6.64	5.21	10	16.00	6.46	3.96				
40	5.43	6.73	5.36	15	15.17	6.47	4.12				
50	4.00	6.83	5.50	P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m							
60	3.45	6.98	5.61					0	16.30	6.46	3.91
70	3.40	7.16	5.76	5	16.12	6.46	3.94				
P. 9; 1935 12. VIII 0 <sup>h</sup> 00 <sup>m</sup> φ=59°14', λ=22°11', 107 m				10	16.00	6.46	3.96				
				0	16.40	6.09	3.62	15	15.17	6.47	4.12
5	16.35	6.11	3.63	P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m							
10	16.20	6.13	3.68					0	16.30	6.46	3.91
15	13.35	6.24	4.22	5	16.12	6.46	3.94				
20	10.20	6.51	4.83	10	16.00	6.46	3.96				
30	6.95	6.64	5.21	15	15.17	6.47	4.12				
40	5.43	6.73	5.36	P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m							
50	4.00	6.83	5.50					0	16.30	6.46	3.91
60	3.45	6.98	5.61	5	16.12	6.46	3.94				
70	3.40	7.16	5.76	10	16.00	6.46	3.96				
P. 9; 1935 12. VIII 0 <sup>h</sup> 00 <sup>m</sup> φ=59°14', λ=22°11', 107 m				15	15.17	6.47	4.12				
				0	16.40	6.09	3.62	P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m			
5	16.35	6.11	3.63	0	16.30	6.46	3.91				
10	16.20	6.13	3.68	5	16.12	6.46	3.94				
15	13.35	6.24	4.22	10	16.00	6.46	3.96				
20	10.20	6.51	4.83	15	15.17	6.47	4.12				
30	6.95	6.64	5.21	P. 12; 1935 12. VIII 10 <sup>h</sup> 30 <sup>m</sup> φ=58°30'.5, λ=21°13', 95 m							
40	5.43	6.73	5.36					0	16.30	6.46	3.91
50	4.00	6.83	5.50	5	16.12	6.46	3.94				
60	3.45	6.98	5.61	10	16.00	6.46	3.96				
70	3.40	7.16	5.76	15	15.17	6.47	4.12				

m	t <sup>0</sup>	S <sup>0</sup> / <sub>00</sub>	σ <sub>t</sub>	m	t <sup>0</sup>	S <sup>0</sup> / <sub>00</sub>	σ <sub>t</sub>	m	t <sup>0</sup>	S <sup>0</sup> / <sub>00</sub>	σ <sub>t</sub>
<b>P. 16;</b> 1935 18. VII 12 <sup>h</sup> 10 <sup>m</sup> φ=57°55', λ=22°32', 30 m				15	9.24	5.55	4.18	10	14.27	5.48	3.50
0	17.36	5.43	2.94	20	3.84	5.57	4.49	15	13.45	5.54	3.66
5	17.16	5.45	2.98	30	2.55	5.63	4.54	20	9.75	5.54	4.11
10	11.45	5.61	3.98	W 3.4, T=17.0°, R=68%, S=3, C=3/10.				28	6.50	5.75	4.53
15	6.36	5.86	4.63					SW 1.6, T=18.0°, R=82%, S=1, C=7/10.			
20	5.75	5.95	4.73								
28	7.70	6.33	4.91								
SW 8.9, T=18.0°, R=77%, S=5, C=9/10.											
<b>P. 17;</b> 1935 19. VII 10 <sup>h</sup> 30 <sup>m</sup> φ=57°52', λ=23°16', 46 m				<b>P. 19;</b> 1935 19. VII 14 <sup>h</sup> 40 <sup>m</sup> φ=58°04', λ=24°12', 20 m				<b>P. 22;</b> 1935 17. VII 8 <sup>h</sup> 00 <sup>m</sup> φ=58°33'.5, λ=23°28', 20 m			
0	16.60	5.48	3.11	0	17.20	5.41	2.94	0	18.15	6.02	3.23
5	16.53	5.48	3.12	5	17.16	5.41	2.95	5	17.89	6.02	3.28
10	16.43	5.48	3.14	10	16.52	5.43	3.00	10	17.00	6.04	3.46
15	15.78	5.54	3.29	15	12.56	5.14	3.48	15	16.85	6.11	3.55
20	14.00	5.59	3.63	18	11.50	5.37	3.79	19	16.60	6.33	3.76
30	7.85	5.64	4.36	WSW 2.5, T=17.2°, R=72%, S=3, C=7/10.				-0, T=18.6°, R=72%, S=0, C=3/10.			
40	3.04	5.73	4.62								
45	3.56	5.82	4.70								
W 6.2, T=16.5°, R=76%, S=4, C=5/10.				<b>P. 20;</b> 1935 19. VII 18 <sup>h</sup> 20 <sup>m</sup> φ=58°18', λ=24°25', 8 m				<b>P. 23;</b> 1935 16. VII 13 <sup>h</sup> 55 <sup>m</sup> φ=58°49', λ=23°13', 8.2 m			
				0	18.49	5.12	2.47	0	17.46	6.02	3.36
				5	18.50	5.12	2.47	5	16.90	6.02	3.47
				7	18.50	5.12	2.47	8	15.30	6.06	3.78
				SW 2.8, T=18.2°, R=70%, S=2, C=10/10.				SE 1.6, T=20.5°, R=63%, S=1, C=3/10.			
<b>P. 18;</b> 1935 19. VII 12 <sup>h</sup> 55 <sup>m</sup> φ=57°55', λ=23°50', 31 m				<b>P. 21;</b> 1935 17. VII 13 <sup>h</sup> 50 <sup>m</sup> φ=58°10', λ=23°40', 29 m							
0	16.79	5.45	3.05	0	18.20	5.54	2.84				
5	16.60	5.45	3.08	5	15.40	5.52	3.34				
10	15.65	5.50	3.28								

0	17.36	2.99	6.51	6.55	100.6	20.09	0.34	0.33	0.41
28	7.70	3.49	7.94	5.30	66.8	21.63	0.51	0.49	0.36
<b>P. 17; 1935 19. VII.</b>									
0	16.60	3.02	6.60	6.71	101.7	20.60	0.46	0.45	0.51
20	14.00	3.08	6.94	6.53	94.1	24.97			
45	3.56	3.21	8.82	5.50	62.4	20.15	0.65	0.63	0.39
<b>P. 18; 1935 19. VII.</b>									
0	16.79	3.00	6.58	6.46	98.2	22.52	1.24	1.20	1.40
30	2.55	3.10	9.08	6.88	75.8	22.30	1.55	1.50	0.86
<b>P. 19; 1935 19. VII.</b>									
0	17.20	2.98	6.53	6.43	98.5	21.89	1.62	1.56	1.76
18	11.50	2.96	7.32	6.61	90.3	19.24	0.41	0.40	0.33
<b>P. 20; 1935 19. VII.</b>									
0	18.49	2.82	6.39	5.87	91.9	20.03	2.62	2.54	3.09
<b>P. 21; 1935 17. VII.</b>									
0	18.20	3.05	6.41	6.73	105.0	20.18	0.52	0.51	0.60
28	6.50	3.17	8.20	5.95	72.6	20.02	0.55	0.54	0.36
<b>P. 22; 1935 17. VII.</b>									
0	18.15	3.32	6.40	6.27	98.0	18.58	0.46	0.45	0.58
19	16.60	3.49	6.58	5.75	87.4	17.47	0.37	0.36	0.43
<b>P. 23; 1935 16. VII.</b>									
0	17.46	3.32	6.48	6.41	98.9	20.02	0.36	0.35	0.44
8	15.30	3.34	6.74	6.42	95.2	16.86	0.36	0.35	0.43

0	15.96	2.68	6.70	6.98	104.2	15.87	1.01	0.98	1.01
20	6.99	3.13	8.10	7.60	93.8	16.95			
40	2.30	3.69	9.08	7.64	84.1	18.76			
60	3.11	4.27	8.82	5.86	66.4	21.98	1.51	1.46	0.99
80	4.27	5.21	8.48	2.57	30.3	22.36			
100	4.43	5.24	8.44	2.68	31.8	21.61	2.41	2.33	1.60
<b>P. 6; 1935 13. VII.</b>									
0	16.25	3.20	6.64	6.61	99.6	16.82	0.46	0.45	0.43
20	9.02	3.38	7.70	7.40	96.1	16.32			
40	2.38	3.76	9.04	8.12	89.8	19.00	0.35	0.34	0.21
60	3.15	4.29	8.81	5.77	65.5	19.95			
80	4.40	5.28	8.44	2.17	25.7	22.20	0.43	0.42	0.26
<b>P. 7; 1935 13. VII.</b>									
0	16.56	3.11	6.60	6.85	103.8	16.21	0.36	0.35	0.43
20	8.83	3.46	7.73	7.37	95.3	17.08			
40	3.15	3.71	8.87	8.39	94.6	17.21	0.51	0.49	0.32
60	2.94	4.06	8.90	6.94	78.0	21.13			
80	4.45	5.26	8.44	2.68	31.8	20.87	1.45	1.40	0.98
<b>P. 8; 1935 15. VII.</b>									
0	16.68	3.32	6.58	6.55	99.5	18.15	0.41	0.40	0.47
20	8.15	3.48	7.86	7.83	99.6	16.71			
40	2.25	3.76	9.08	8.11	89.3	17.58	0.45	0.44	0.24
60	2.90	4.13	8.89	6.54	73.6	19.80			
85	4.96	5.29	8.33	2.75	33.0	23.53	0.42	0.41	0.26
<b>P. 9; 1935 12. VIII.</b>									
0	16.40	3.36	6.60	7.42 <sup>2)</sup>	112.4 <sup>2)</sup>	16.48	0.40	0.39	0.44
50	4.00	3.77	8.67	8.03	92.6	20.05			
105	4.80	5.53	8.33	4.11	49.3	18.86	0.39	0.38	0.24

Tabel nr. 4.  
 Temperatuur ja soolsus pinnal 1935. a.  
 Temperature and Salinity at the Surface  
 1935.

Vaatlusaeg Date		$\varphi$	$\lambda$	$t^{\circ}$	$S^{\text{‰}}$
1. VII 35	14 <sup>h</sup> 25 <sup>m</sup>	59°43'	25°01'	15.96	4.87
"	16 05	59 45.5	25 13	16.02	4.89
"	16 50	59 48	25 25	17.65	5.05
"	17 30	59 50	25 37	15.10	4.87
"	18 50	59 45	25 43	17.94	4.40
3. VII 35	15 10	59 52	26 17	16.96	4.87
"	18 40	59 47	26 39	16.80	4.60
"	19 40	59 46	26 51.5	16.41	4.42
"	20 15	59 47	27 05	16.90	4.45
"	21 45	59 42.5	27 16	17.80	4.15
"	22 25	59 38	27 27	17.09	4.40
"	23 25	59 35.5	27 37	18.35	4.04
4. VII 35	0 05	59 33	27 47	19.18	3.62
"	1 00	59 30.5	27 57	19.62	3.60
13. VII 35	11 50	59 36.5	24 21	16.25	5.81
"	13 35	59 33	24 04	15.75	5.66
"	14 42	59 30	23 44	16.56	5.64
15. VII 35	16 00	59 26	23 09	16.68	6.02
"	18 00	59 16	23 23	15.56	5.90
16. VII 35	13 55	58 49	23 13	17.46	6.02
"	15 35	58 40	23 18.5	19.25	6.28
17. VII 35	8 00	58 33.5	23 28	18.15	6.02
"	12 30	58 18	23 33	18.19	5.54
"	13 50	58 10	23 40	18.20	5.54
"	15 15	58 00.5	23 30	19.30	5.54
"	18 00	57 48	23 17	18.70	5.54
"	19 00	57 52.5	23 05.5	18.91	5.37
"	20 00	57 54	22 49.5	18.19	5.39
"	21 00	57 54	22 29	18.70	5.32
"	22 00	57 54.3	22 13	18.48	5.55
18. VII 35	9 25	57 42	21 56	17.06	6.00
"	10 30	57 46	22 09.5	16.95	5.43
"	12 10	57 55	22 32	17.36	5.43
"	13 40	58 04	22 39.5	16.34	5.66
19. VII 35	9 30	57 57	23 02	16.34	5.46
"	10 30	57 52	23 16	16.60	5.48
"	11 50	57 52.5	23 32.5	16.70	5.63

Vaatlusaeg Date		$\varphi$	$\lambda$	$t^{\circ}$	$S^{\circ}/_{00}$
19. VII 35.	12 <sup>h</sup> 55 <sup>m</sup>	57°55'	23°50'	16.79	5.45
"	14 00	57 59.5	24 00.5	17.10	5.45
"	14 40	58 04	24 12	17.20	5.41
"	15 30	58 08.5	24 09	17.20	5.52
"	18 20	58 18	24 25	18.49	5.12
12. VIII 35	0 00	59 14	22 11	16.40	6.09
"	3 30	59 05	21 54	16.30	6.13
"	5 00	59 01	21 40	16.30	6.09
"	6 00	58 58	21 27	16.23	6.19
"	7 00	58 55.5	21 18	16.47	6.19
"	8 30	58 47.5	21 17	16.46	6.29
"	9 30	58 40	21 15	16.15	6.42
"	10 30	58 30.5	21 13	16.30	6.46
"	12 10	58 23.3	21 07	16.38	6.51
"	13 05	58 16	21 00	16.91	6.62

## **Hüdroloogilised vaatlused 1936. a.**

Järgnevad hüdroloogilised vaatlused on toimetatud autori poolt hr. J. Luhari kaasabil juulis ja augustis 1936. a. Veeteede Talitusele kuuluval aurikul „Sekstant“.

Vaatlusajad, vaatluskohdade geograafilised koordinaadid ja sügavused on antud tabelis nr. 6.

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## **The Thalassological Observations in 1936.**

The observations were made by the author with the assistance of Mr. J. Luhari in July and August 1936, from s. s. "Sekstant", belonging to the Department of Waterways in Estonia.

The time, geographical coordinates, and depths of the observation points are given in table 6.

Tabel nr. 6.

Vaatlusajad, vaatluskohtade koordinaadid  
ja sügavused 1936. a.

The Time, Geographical Coordinates and  
Depths of the Observation Points 1936.

Nr.	Vaatlusaeg Date	$\varphi$	$\lambda$	m
3	16. VIII 17 <sup>h</sup> 15 <sup>m</sup>	59°52'	26°17'	87
4	„ „ 13 40	59 50	25 37	81
5	„ „ 9 50	59 43	25 01	98
6	29. VII 9 17	59 36.5	24 21	85
7	30. „ 8 43	59 30	23 44	85
8	„ „ 11 55	59 26	23 09	94
9	12. VIII 9 10	59 14	22 11	140
10	10. „ 16 13	59 05	21 52	88
11	„ „ 12 30	58 54.5	21 14	76
12	„ „ 8 45	58 30.5	21 13	99
13	7. „ 14 45	58 16	21 00	90
14	„ „ 10 45	57 53	21 32	58
15	„ „ 8 35	57 42	21 56	28
16	„ „ 2 35	57 55	22 32	27
17	6. „ 23 00	57 52	23 16	49
18	„ „ 17 00	57 55	23 50	31
19	„ „ 15 00	58 04	24 12	19
20	1. „ 15 35	58 18	24 25	8
22	31. VII 12 10	58 33.5	23 28	21
23	„ „ 7 45	58 49	23 13	8
24	30. „ 16 45	59 03	23 04	14

Selgitusi järgnevale tabelitele (nr. 7, 8, 9) vt. lk. 3.

For explications to the following tables (7, 8, 9) see p. 4—5.

Tabel nr. 7.

Merevee temperatuur ( $t^\circ$ ), soolsus ( $S_{\text{‰}}$ ), tihedus *in situ* ( $\sigma_t$ ) m meetri sügavusel 1936. a. suvel.

Temperature ( $t^\circ$ ), Salinity ( $S_{\text{‰}}$ ), Density *in situ* ( $\sigma_t$ ) of Sea Water at the Depth of m Metres in Summer 1936.

m	$t^\circ$	$S_{\text{‰}}$	$\sigma_t$	m	$t^\circ$	$S_{\text{‰}}$	$\sigma_t$	m	$t^\circ$	$S_{\text{‰}}$	$\sigma_t$
<b>P. 3;</b> 1936 16. VIII 17 <sup>h</sup> 15 <sup>m</sup> $\varphi=59^\circ52'$ , $\lambda=26^\circ17'$ , 87 m				<b>P. 5;</b> 1936 16. VIII 9 <sup>h</sup> 50 <sup>m</sup> $\varphi=59^\circ43'$ , $\lambda=25^\circ01'$ , 98 m				<b>P. 7;</b> 1936 30. VII 8 <sup>h</sup> 43 <sup>m</sup> $\varphi=59^\circ30'$ , $\lambda=23^\circ44'$ , 85 m			
0	17.65	5.59	3.00	0	17.90	5.99	3.25	0	16.76	6.02	3.50
5	17.85	5.59	2.96	5	17.90	5.91	3.19	5	16.71	5.95	3.45
10	17.80	5.61	2.98	10	17.85	5.91	3.20	10	16.52	5.99	3.51
15	17.74	5.61	2.99	15	17.10	6.02	3.43	15	16.25	6.00	3.57
20	16.20	5.55	3.24	20	15.95	6.00	3.62	20	13.85	6.17	4.10
30	9.97	5.63	4.17	30	10.90	5.82	4.22	25	7.25	6.04	4.71
35	5.78	5.70	4.53	40	5.00	6.00	4.80	30	5.46	6.44	5.12
40	3.35	6.00	4.83	50	3.70	6.38	5.13	40	3.78	6.64	5.34
50	3.54	6.62	5.32	60	3.10	6.93	5.58	50	3.33	6.89	5.54
60	3.35	7.11	5.71	70	3.35	7.25	5.83	60	2.90	7.27	5.86
70	3.82	7.77	6.23	80	4.06	8.19	6.56	70	3.96	8.24	6.60
80	4.15	8.22	6.59	90	4.25	8.53	6.83	80	4.24	8.64	6.92
E 6.7, T=18.1°, R=62%, S=3, C=0/10.				NE 7.0, T=18.5°, R=74%, S=3, C=4/10.				SW 3.5, T=16.8°, R=83%, S=2, C=7/10.			
<b>P. 4;</b> 1936 16. VIII 13 <sup>h</sup> 40 <sup>m</sup> $\varphi=59^\circ50'$ , $\lambda=25^\circ37'$ , 81 m				<b>P. 6;</b> 1936 29. VII 9 <sup>h</sup> 17 <sup>m</sup> $\varphi=59^\circ36'.5$ , $\lambda=24^\circ21'$ , 85 m				<b>P. 8;</b> 1936 30. VII 11 <sup>h</sup> 55 <sup>m</sup> $\varphi=59^\circ26'$ , $\lambda=23^\circ09'$ , 94 m			
0	18.00	5.86	3.13	0	17.42	5.90	3.28	0	16.05	6.00	3.60
5	18.00	5.86	3.13	5	17.55	5.90	3.25	5	15.96	6.02	3.64
10	17.92	5.79	3.10	10	17.46	5.90	3.27	10	15.95	6.02	3.64
15	17.24	5.90	3.31	15	16.31	6.06	3.60	15	14.84	6.28	4.01
20	17.14	5.95	3.37	20	14.20	6.22	4.08	20	9.40	6.31	4.75
30	16.90	5.99	3.44	30	6.95	6.38	5.00	30	4.75	6.47	5.18
40	14.35	5.82	3.75	40	4.00	6.58	5.29	40	3.53	6.67	5.36
45	5.90	5.77	4.58	50	2.84	6.85	5.52	50	2.95	6.91	5.56
50	3.55	6.51	5.24	60	3.33	7.12	5.73	60	2.88	—	—
60	3.25	6.98	5.61	70	4.06	8.22	6.59	70	3.74	8.06	6.47
70	3.66	7.41	5.95	80	4.75	8.73	6.97	80	4.30	8.85	6.84
79	4.43	8.55	6.84	80	4.75	8.73	6.97	90	4.46	8.93	7.14
E 8.1, T=17.1°, R=71%, S=3, C=1/10.				SSW 6.7, T=18.5°, R=92%, S=3, C=10/10.				SW 3.9, T=17.1°, R=80%, S=4, C=8/10.			

Tabel nr. 8.

Hapnik, leelisus ja vaba süsihappe rõhk 1936. a.  
Oxygen, Alkalinity and Pressure of Free Carbonic Acid. 1936.

m	t°	Cl <sup>0</sup> / <sub>100</sub>	O <sub>2</sub> '	O <sub>2</sub>	$\frac{O_2}{O_2'} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>t</sub>	Θ <sub>t</sub>	m	t°	Cl <sup>0</sup> / <sub>100</sub>	O <sub>2</sub> '	O <sub>2</sub>	$\frac{O_2}{O_2'} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>t</sub>	Θ <sub>t</sub>
<b>P. 3; 1936 16. VIII.</b>																			
0	17.65	3.08	6.48	6.18	95.4		2.51	2.40	2.16	0	16.30	3.54	6.60	6.38	96.7	16.17	1.92	1.82	1.43
20	16.20	3.06	6.65	5.92	89.0					20	15.80	3.56	6.66	6.33	95.0				
40	3.35	3.31	8.87	6.56	74.0					40	5.43	3.88	8.35	7.17	85.9	17.64	1.75	1.68	0.85
60	3.35	3.92	8.81	4.91	55.7					60	3.30	4.00	8.81	7.24	82.2	17.18			
80	4.15	4.54	8.57	2.71	31.6					80	4.35	4.73	8.51	3.83	45.0	18.53			
<b>P. 4; 1936 16. VIII.</b>																			
0	18.00	3.23	6.48	6.14	94.8	15.99	2.13	2.04	1.70	95	5.10	5.41	8.28	0.90	10.9	18.28	0.96	0.92	0.38
20	17.14	3.28	6.52	5.94	91.1	15.13				<b>P. 13; 1936 7. VIII.</b>									
40	14.35	3.21	6.88	6.12	89.0	15.68				0	16.86	3.52	6.54	6.37	97.4	15.90	1.09	1.05	0.77
60	3.25	3.85	8.79	5.42	61.7	16.37				20	16.36	3.67	6.59	5.98	90.7	16.46			
79	4.43	4.72	8.49	2.83	33.3		3.66	3.51	1.92	40	11.65	3.85	7.24	6.05	83.6	16.79	1.33	1.27	0.80
<b>P. 5; 1936 16. VIII.</b>																			
0	17.90	3.30	6.43	6.13	95.3		2.27	2.17	1.79	60	5.35	3.93	8.37	7.04	84.1	18.46			
20	15.95	3.31	6.66	6.08	91.3					85	4.00	4.54	8.60	3.80	44.2	18.12	3.88	3.72	2.06
40	5.00	3.31	8.49	6.52	76.8					<b>P. 14; 1936 7. VIII.</b>									
60	3.10	3.82	8.88	6.57	74.0					0	16.60	3.64	6.56	6.29	95.9	15.80	0.91	0.87	0.66
80	4.06	4.52	8.59	3.91	45.5	17.57				20	16.75	3.78	6.53	5.87	89.9	16.46			
95	4.30	4.63	8.53	3.65	42.8	18.62	3.65	3.50	1.91	40	16.90	3.86	6.51	5.78	88.8	17.24			
<b>P. 6; 1936 29. VII.</b>																			
0	17.42	3.25	6.49	6.08	93.7	15.64	0.86	0.83	0.63	55	16.70	3.86	6.53	5.77	88.4	17.00	1.88	1.79	1.44
20	14.20	3.43	6.89	5.46	79.2	15.67				<b>P. 15; 1936 7. VIII.</b>									
40	4.00	3.63	8.19	7.08	86.4	16.04	0.78	0.75	0.29	0	16.75	3.77	6.56	6.11	93.1	17.80	0.95	0.91	0.64
60	3.33	3.93	8.81	5.98	67.9	16.85				25	14.65	3.64	6.82	5.97	87.5	17.74	1.42	1.36	0.90
80	4.75	4.82	8.41	2.38	28.3	17.68	1.40	1.34	0.64										

0	16.65	3.38	6.69	5.98	89.4	18.68	1.74	1.07	1.30
25	4.23	3.34	6.67	5.43	81.4		2.40	2.33	1.13

## P. 17; 1936 6. VIII.

0	17.56	2.95	6.49	5.66	87.2		1.28	1.23	1.03
20	17.60	2.95	6.49	5.39	83.0	18.79			
45	3.98	3.35	8.72	5.33	61.1	18.79	1.04	0.99	0.45

## P. 18; 1936 6. VIII.

0	17.70	2.98	6.48	5.60	86.4	19.12	1.10	1.06	0.87
30	8.73	3.10				19.51	0.65	0.62	0.23

## P. 19; 1936 6. VIII.

0	19.20	3.01	6.30	5.38	85.4	20.23	0.57	0.55	0.35
18	19.16	3.03	6.30	5.10	81.0	18.92	1.65	1.58	1.43

## P. 20; 1936 1. VIII.

0	20.55	2.91	6.17	5.16	83.6	20.25	1.75	1.68	1.67
7	19.18	2.94	6.30	5.12	81.3	20.06			

## P. 22; 1936 31. VII.

0	17.52	3.05	6.49	5.58	86.0	18.95	2.97	2.84	2.46
20	17.60	3.05	6.48	5.26	81.2	19.01	1.69	1.61	1.33

## P. 23; 1936 31. VII.

0	19.00	3.22	6.31	5.65	89.5	18.84	1.24	1.18	1.04
7	19.10	3.22	6.30	5.59	88.7	18.69	1.13	1.07	0.93

## P. 24; 1936 30. VII.

0	19.24	3.29	6.28	5.67	90.3	17.57	1.10	1.06	0.96
12	19.48	3.28	6.25	5.54	88.6	17.68	2.64	2.50	2.16

0	16.76	3.32	6.56	6.02	91.8	15.40	0.91	0.87	0.63
20	13.85	3.40	6.94	5.97	86.0	17.06			
40	3.78	3.66	8.74	7.53	86.2	16.62	2.59	2.48	1.29
60	2.90	4.01	8.92	5.96	66.8	17.15			
80	4.24	4.77	8.52	2.95	34.6	17.74	2.15	2.05	1.08

## P. 8; 1936 30. VII.

0	16.05	3.31	6.75	6.28	93.0	15.57	1.13	1.07	0.80
20	9.40	3.48	7.63	6.56	86.0	15.80			
40	3.53	3.68	8.79	7.32	83.3	16.50	1.96	1.90	0.90
60	2.88		6.46		16.74				
90	4.46	4.93	8.47	2.43	28.7	18.57	3.53	3.30	1.74

## P. 9; 1936 12. VIII.

0	17.60	3.40	6.46	6.34	98.1	17.47	2.42	2.32	1.88
20	16.27	3.58	6.61	5.93	89.7				
40	10.95	3.68	7.36	6.44	87.5	16.26			
60	2.95	3.97	8.89	6.60	74.2	17.07	2.04	1.96	0.98
80	3.45	4.21	8.75	5.22	59.7	17.81			
100	4.75	5.42	8.35	1.60	19.2				
120	5.20	5.58	8.25	1.39	16.8				
135	5.25	5.59	8.23	1.33	16.2	20.99	3.57	3.42	1.88

## P. 10; 1936 10. VIII.

0	16.80	3.56	6.54	6.46	98.8		1.38	1.31	0.99
20	16.25	3.61	6.61	5.88	89.0	17.10			
40	16.00	3.68	6.63	5.69	85.8	18.84			
60	4.24	3.90	8.61	7.04	81.8	17.07			
85	4.76	5.15	8.37	2.04	24.4		3.00	3.64	2.01

## P. 11; 1936 10. VIII.

0	16.79	3.48	6.54	6.45	98.6		1.35	1.29	1.01
20	15.76	3.58	6.67	6.15	92.2	16.28			
40	4.44	3.82	8.57	7.83	91.4	17.08			
60	3.30	4.03	8.81	7.04	79.9	17.35			
72	4.05	4.38	8.61	5.32	61.8	17.55	0.92	0.89	0.36

Tabel nr. 9.  
 Temperatuur ja soolsus pinnal 1936. a.  
 Temperature and Salinity at the Surface  
 1936.

Vaatlusaeg Date		$\varphi$	$\lambda$	$t^{\circ}$	S‰
29. VII	36 9 <sup>h</sup> 17 <sup>m</sup>	59°36'.5	24°21'	17.42	5.90
30. "	" 8 43	59 30	23 44	16.76	6.02
"	" 10 30	59 28	23 26	16.66	5.86
"	" 11 55	59 26	23 09	16.05	6.00
"	" 16 45	59 03	23 04	19.24	5.97
31. "	" 7 45	58 49	23 13	19.00	5.84
"	" 11 24	58 38	23 24	17.96	5.59
"	" 12 10	58 33.5	23 28	17.52	5.54
1. VIII	" 15 35	58 18	24 25	20.55	5.28
6. "	" 15 00	58 04	24 12	19.20	5.46
"	" 16 30	58 00	24 03	19.05	5.48
"	" 17 00	57 55	23 50	17.70	5.41
"	" 18 50	57 50	23 21.5	17.62	5.45
"	" 23 00	57 52	23 16	17.56	5.35
7. "	" 0 30	57 52.5	23 00	17.22	5.35
"	" 1 30	57 54	22 46	14.53	6.02
"	" 2 35	57 55	22 32	15.65	6.13
"	" 4 00	57 55	22 15	12.10	6.62
"	" 8 00	57 46.5	22 01	17.12	6.89
"	" 8 35	57 42	21 56	16.75	6.83
"	" 10 00	57 47.5	21 42.5	17.55	6.98
"	" 10 45	57 53	21 32	16.60	6.60
"	" 12 30	58 01	21 21	16.60	6 2 9
"	" 13 30	58 07.8	21 11.5	16.84	6.51
"	" 14 30	58 14	21 03	16.60	6.62
"	" 14 45	58 16	21 00	16.86	6.38
"	" 16 25	58 18	21 16	16.90	6.73
"	" 17 45	58 21	21 34	17.05	6.78
10. "	" 8 45	58 30.5	21 13	16.30	6.42
"	" 10 45	58 39.5	21 13.5	16.45	6.40
"	" 11 30	58 47.5	21 13.5	16.95	6.11
"	" 12 30	58 54.5	21 14	16.79	6.31
"	" 14 00	58 58	21 27	16.80	6.40
"	" 15 00	59 02	21 42	17.05	6.60
"	" 16 13	59 05	21 52	16.80	6.46
12. "	" 8 00	59 04.3	22 12	17.86	6.56
"	" 9 10	59 14	22 11	17.60	6.17
"	" 11 35	59 09	22 23.5	17.50	6.35

m	t°	S°/00	σ <sub>t</sub>	m	t°	S°/00	σ <sub>t</sub>	m	t°	S°/00	σ <sub>t</sub>
10	18.74	5.35	2.60	<b>P. 10;</b> 1937 31. VII 8 <sup>h</sup> 35 <sup>m</sup>				50	2.78	7.09	5.71
20	11.45	5.79	4.13	φ=59°05', λ=21°52', 73 m				60	2.68	7.29	5.87
30	5.67	6.53	5.19	0	18.48	6.24	3.32	70	2.67	7.38	5.94
40	2.63	6.74	5.43	5	18.22	6.24	3.38	NE 7.4, T=15.9°, R=92%, S=6, C=10/10.			
50	2.12	6.89	5.55	10	8.63	6.46	4.94	<b>P. 13;</b> 1937 4. VIII 13 <sup>h</sup> 00 <sup>m</sup>			
60	2.24	7.14	5.75	20	5.85	6.71	5.32	φ=58°16', λ=21°00', 63 m			
75	4.04	8.41	6.74	30	3.63	6.85	5.51	0	18.40	6.40	3.47
NE 7.3, T=18.0°, R=91%, S=5, C=7/10.				40	2.92	7.00	5.64	5	18.38	6.40	3.47
<b>P. 8;</b> 1937 30. VII 11 <sup>h</sup> 10 <sup>m</sup>				50	2.96	7.03	5.67	10	18.30	6.40	3.49
φ=59°26', λ=23°09', 100 m				60	2.84	7.07	5.70	15	11.48	6.58	4.74
0	18.27	5.93	3.14	NE 4.7, T=16.9°, R=88%, S=6, C=10/10, ●				20	8.92	6.65	5.07
5	17.20	5.91	3.33	<b>P. 11;</b> 1937 31. VII 11 <sup>h</sup> 35 <sup>m</sup>				30	4.50	6.87	5.50
6.5	15.57	5.99	3.68	φ=58°54'.5, λ=21°14', 140 m				40	3.00	6.93	5.58
8	7.19	6.42	5.02	0	18.42	6.04	3.19	50	2.15	7.05	5.68
10	5.20	6.53	5.21	5	18.30	6.04	3.21	60	2.79	7.45	5.99
15	3.49	6.69	5.38	10	18.20	6.04	3.23	NE 8.9, T=18.3°, R=84%, S=5, C=8/10.			
20	2.54	6.76	5.45	12	16.10	6.00	3.59	<b>P. 14;</b> 1937 4. VIII 16 <sup>h</sup> 25 <sup>m</sup>			
30	2.18	6.85	5.52	15	8.69	5.70	4.34	φ=57°53', λ=21°32', 61 m			
40	1.98	7.00	5.64	20	8.62	6.31	4.82	0	18.11	6.31	3.45
50	2.48	7.39	5.95	30	7.29	6.76	5.28	5	18.06	6.31	3.46
60	3.42	7.99	6.42	40	3.70	7.02	5.63	10	18.00	6.31	3.47
70	4.26	8.73	6.99	50	2.35	7.14	5.75	15	11.30	6.65	4.82
80	4.73	9.25	7.38	60	2.61	7.56	6.08	20	7.98	6.73	5.20
95	4.87	9.51	7.59	70	3.62	8.19	6.57	30	4.40	6.85	5.49
NE 5.1, T=17.0°, R=95%, S=5, C=7/10.				80	4.30	8.77	7.02	40	3.73	6.87	5.51
<b>P. 9;</b> 1937 30. VII 16 <sup>h</sup> 00 <sup>m</sup>				90	4.42	8.95	7.15	50	2.96	7.07	5.70
φ=59°14', λ=22°11', 116 m				100	4.91	9.54	7.60	55	2.98	7.03	5.67
0	19.22	6.26	3.19	110	5.03	9.89	7.87	ENE 6.0, T=18.2°, R=87%, S=4, C=10/10.			
5	18.90	6.29	3.28	120	5.00	9.98	7.94	<b>P. 15;</b> 1937 4. VIII 19 <sup>h</sup> 18 <sup>m</sup>			
10	18.68	6.20	3.25	130	5.05	10.14	8.08	φ=57°42', λ=21°56', 24 m			
15	11.18	6.22	4.49	NE 8.7, T=15.7°, R=93%, S=6, C=10/10.				0	18.28	5.68	2.94
20	6.49	6.53	5.15	<b>P. 12;</b> 1937 31. VII 14 <sup>h</sup> 45 <sup>m</sup>				5	18.25	5.68	2.95
30	2.96	6.93	5.58	φ=58°30'.5, λ=21°13', 79 m				10	18.21	5.72	2.98
40	2.78	7.07	5.70	0	18.90	6.37	3.34	15	15.32	6.17	3.86
50	2.62	7.09	5.71	5	18.86	6.40	3.38	20	9.42	6.73	5.07
60	2.49	7.18	5.78	10	18.81	6.65	3.57	ENE 7.3, T=19.0°, R=86%, S=5, C=6/10.			
70	6.05	6.62	5.24	15	12.90	6.55	4.52				
80	4.06	8.35	6.69	20	7.82	6.65	5.16				
90	4.86	9.42	7.51	30	5.35	6.78	5.40				
100	4.90	9.63	7.68	40	2.83	6.93	5.58				
NNW 3.3, T=19.8°, R=81%, S=4, C=7/10.											

m	t <sup>0</sup>	S <sup>0</sup> / <sub>00</sub>	σ <sub>t</sub>	m	t <sup>0</sup>	S <sup>0</sup> / <sub>00</sub>	σ <sub>t</sub>	m	t <sup>0</sup>	S <sup>0</sup> / <sub>00</sub>	σ <sub>t</sub>
<b>P. 16;</b> 1937 5. VIII 10 <sup>h</sup> 40 <sup>m</sup> φ=57°55', λ=22°32', 28 m				<b>P. 18;</b> 1937 7. VIII 11 <sup>h</sup> 15 <sup>m</sup> φ=57°55', λ=23°50', 28 m				<b>P. 21;</b> 1937 10. VIII 10 <sup>h</sup> 05 <sup>m</sup> φ=58°10', λ=23°40', 27.5 m			
0	18.94	5.39	2.59	0	19.28	5.30	2.44	0	20.14	5.37	2.32
5	18.84	5.35	2.58	5	19.21	5.32	2.48	5	19.79	5.37	2.39
10	18.80	5.39	2.62	10	18.48	5.41	2.69	10	18.79	5.46	2.67
15	18.80	5.39	2.62	15	11.64	5.59	3.95	15	18.71	5.55	2.76
20	18.31	5.64	2.91	20	8.38	5.61	4.27	20	10.39	5.79	4.24
22.5	16.68	5.64	3.22	25	2.55	5.73	4.62	25	6.65	5.84	4.59
25	11.30	5.64	4.03	E 3.3, T=19.1°, R=89%, S=3, C=10/10.				WSW2.7, T=20.3°, R=91%, S=2, C=9/10.			
ENE 4.1, T=20.8°, R=85%, S=3, C=9/10.				<b>P. 19;</b> 1937 7. VIII 13 <sup>h</sup> 10 <sup>m</sup> φ=58°04', λ=24°12', 18 m				<b>P. 22;</b> 1937 10. VIII 12 <sup>h</sup> 45 <sup>m</sup> φ=58°33'.5, λ=23°28', 20 m			
<b>P. 17;</b> 1937 7. VIII 8 <sup>h</sup> 50 <sup>m</sup> φ=57°52', λ=23°16', 47 m				0	18.98	5.43	2.61	0	20.29	5.70	2.64
0	19.11	5.39	2.56	5	18.92	5.46	2.64	5	19.81	5.70	2.64
5	19.09	5.37	2.54	10	18.57	6.48	2.73	10	19.50	5.70	2.71
10	19.06	5.34	2.52	11.5	18.30	5.48	2.79	15	18.75	5.70	2.86
15	14.36	5.46	3.47	12.5	8.38	5.64	4.32	17	17.30	5.70	3.14
20	7.74	5.59	4.32	15	5.92	5.68	4.51	WNW3.2, T=19.0°, R=82%, S=2, C=10/10, Γ <sub>2</sub> .			
25	4.98	5.70	4.57	E 5.6, T=19.3°, R=82%, S=3, C=10/10.				<b>P. 23;</b> 1937 10. VIII 15 <sup>h</sup> 00 <sup>m</sup> φ=58°49', λ=23°13', 8 m			
35	1.94	5.77	4.65	<b>P. 20;</b> 1937 7. VIII 15 <sup>h</sup> 25 <sup>m</sup> φ=58°18', λ=24°25', 7 m				0	19.59	6.31	3.15
45	2.85	5.90	4.76	0	19.03	5.35	2.54	5	18.05	6.37	3.51
E 4.2, T=20.1°, R=76%, S=3, C=10/10.				5	19.01	5.30	2.50	7	11.38	6.58	4.75
				E 2.9, T=20.2°, R=81%, S=2, C=8/10.				WSW3.5, T=20.4°, R=81%, S=3, C=9/10.			

Hapnik, leelisuus ja vaba süsihappe rõhk 1937. a.  
Oxygen, Alkalinity, and Pressure of Free Carbonic Acid 1937.

m	t°	Cl <sup>100</sup> /O <sub>2</sub>	O <sub>2</sub>	$\frac{O_2}{O_2'} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>11</sub>	Θ <sub>t</sub>	m	t°	Cl <sup>100</sup> /O <sub>2</sub>	O <sub>2</sub>	$\frac{O_2}{O_2'} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>11</sub>	Θ <sub>t</sub>			
<b>P. 1 A; 1937 9. VII.</b>																				
0	17.53	2.22	6.58	5.71	86.8	14.34	0.80	0.78	0.95	0	18.18	3.02	6.42	6.32	98.4	15.55	1.07	1.04	1.25	
30	2.85	3.41	8.96	5.89	65.7	16.27				10	16.56	3.19	6.59	6.08	92.3	15.65				
<b>P. 1; 1937 9. VII.</b>																				
0	17.58	2.12	6.54	6.29	96.2	14.01	0.75	0.73	0.88	20	9.12	3.28	7.70	6.63	86.1	15.89				
35	2.18	3.56	9.12	5.68	62.3	18.19	2.40	2.33	1.53	40	2.38	3.73	9.05	7.95	87.8	16.98				
<b>P. 2; 1937 9. VII.</b>																				
0	17.49	2.15	6.54			14.02	0.97	0.94	1.11	60	2.23	3.99	9.07	6.82	75.2	18.77				
20	6.81	2.67	8.17	6.22	76.1	14.78				80	4.23	4.86	8.52	2.26	26.5	19.27				
50	2.03	3.80	9.13	6.46	70.8					100	4.68	4.96	8.41	1.84	21.9	18.50	0.98	0.95	0.66	
63	2.05	3.99	9.11	5.50	60.4	17.18	3.51	3.40	2.30	<b>P. 6; 1937 30. VII.</b>										
<b>P. 3; 1937 9. VII.</b>																				
0	18.35	2.38	6.43	6.10	94.9	14.72	1.00	0.97	1.19	0	17.62	2.81	6.50	6.65	102.3	17.99	1.15	1.12	1.32	
20	5.72	2.71	8.41	6.87	81.7	14.45				30	3.56	3.63	8.79	7.45	84.8					
40	2.16	3.63	9.12	8.04	88.2	17.52				50	2.18	3.85	9.09	7.45	82.0			1.55	1.51	0.97
60	2.45	4.02	9.01	6.41	70.3	18.03				75	4.21	4.81	8.53	2.96	34.7	19.63	2.67	2.61	1.82	
80	3.90	2.38	8.82	3.07	34.8	19.52	3.10	3.00	2.09	<b>P. 7; 1937 30. VII.</b>										
<b>P. 4; 1937 9. VII.</b>																				
0	18.38	2.43	6.43	6.40	99.5	14.58	1.50	1.46	1.77	0	18.92	2.76	6.35	4.92	77.5	15.60	1.03	1.00	1.28	
10	15.91	2.51	6.72	5.91	87.9	14.03				20	11.45	3.19	7.31	6.25	85.5					
50	1.74	3.82	9.21	7.18	78.0	17.56				40	2.63	3.72	9.00	8.15	90.6					
70	1.94	3.91	9.14	6.87	75.2	18.19				60	2.24	3.94	9.07	7.45	82.1					
95	5.07	2.92								75	4.04	4.64	8.58	3.82	44.5	17.97	3.11	3.04	2.12	
105	3.14	3.45	8.90	7.80	87.6	17.48	0.98	0.95	0.66	<b>P. 8; 1937 30. VII.</b>										
<b>P. 5; 1937 10. VII.</b>																				
<b>P. 6; 1937 30. VII.</b>																				
<b>P. 7; 1937 30. VII.</b>																				
<b>P. 8; 1937 30. VII.</b>																				

m	t°	C <sup>10/100</sup>	O <sub>2</sub> '	O <sub>2</sub>	$\frac{O_2}{O_2'} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>t</sub>	Θ <sub>t</sub>	m	t°	C <sup>10/100</sup>	O <sub>2</sub> '	O <sub>2</sub>	$\frac{O_2}{O_2'} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>t</sub>	Θ <sub>t</sub>
<b>P. 9; 1937 30. VII.</b>																			
0	19.22	3.45	6.27	6.02	96.0	16.53	0.92	0.90	1.17	0	18.28	3.13	6.39	5.99	93.7	23.23	0.97	0.95	1.21
30	2.96	3.82	8.91	8.33	93.5					20	9.42	3.71	7.62	6.86	90.0	17.48	1.25	1.23	1.04
50	2.62	3.91	8.98	7.59	84.5	18.28	1.46	1.43	0.93	<b>P. 15; 1937 4. VIII.</b>									
80	4.06	4.61	8.58	3.80	44.3					0	18.94	2.97	6.33	5.83	92.1	19.93	1.16	1.12	1.42
100	4.90	5.32	8.33	1.48	17.8	18.41	2.30	2.25	1.61	15	18.80	2.97	6.35	5.41	85.2				
<b>P. 10; 1937 31. VII.</b>																			
0	18.48	3.44	6.35	5.92	93.2	16.81	1.01	0.99	1.23	25	11.30	3.11	7.34	5.47	74.5	20.32	1.76	1.73	1.57
20	5.85	3.70	8.29	7.57	91.3					<b>P. 16; 1937 5. VIII.</b>									
40	2.92	3.86	8.91	7.78	87.3	17.41	1.65	1.61	1.07	0	19.11	2.97	6.31	5.91	93.7	19.32	1.11	1.08	1.38
60	2.84	3.90	8.93	9.38	105.0	17.62	1.65	1.61	1.07	25	4.98	3.14	8.52	7.29	85.6	19.40			
<b>P. 11; 1937 31. VII.</b>																			
0	18.42	3.83	6.34	6.21	97.9	15.99	0.80	0.78	0.99	45	2.85	3.25	8.99	4.59	51.1	20.45	3.10	3.00	2.01
20	8.62	3.48	7.77	7.15	92.0	17.34				<b>P. 17; 1937 7. VIII.</b>									
50	2.35	3.94	9.05	8.09	89.4	17.05	1.58	1.54	1.00	0	19.28	2.92	6.30	5.75	91.3	19.40	1.09	1.06	1.38
80	4.30	4.84	8.51	3.27	38.4					10	18.48	2.98	6.38	5.49	86.1	20.76			
100	4.91	5.27	8.33	1.76	21.1	24.23				25	2.55	3.16	9.07	6.18	68.1	20.48	2.17	2.11	1.39
130	5.05	5.60	8.27	2.68	32.4	19.74	4.25	4.15	3.01	<b>P. 18; 1937 7. VIII.</b>									
<b>P. 12; 1937 31. VII.</b>																			
0	18.90	3.51	6.30	6.01	95.4	17.00	0.93	0.91	1.19	0	18.98	2.99	6.32	5.78	91.5	19.21	1.06	1.03	1.33
20	7.82	3.67	7.90	8.00	101.3					15	5.92	3.13	8.32	5.73	68.9	19.60			
50	2.78	3.91	8.94	8.82	98.7	17.22				<b>P. 19; 1937 7. VIII.</b>									
70	2.67	4.07	8.95	7.15	79.9	17.11	1.64	1.61	1.07	0	19.03	2.95	6.32	5.68	89.9	19.61	0.84	0.82	1.08
<b>P. 13; 1937 4. VIII.</b>																			
0	18.40	3.53	6.36	5.91	92.9	17.97	0.86	0.84	1.07	5	19.01	2.92	6.33	5.44	85.9	19.51			
20	8.92	3.67	7.70	8.85	114.9	16.78	1.16	1.14	0.94	0	20.14	2.96	6.21	5.84	94.0	19.35	1.17	1.13	1.54
40	3.00	3.82	8.90	8.23	92.5					10	18.79	3.01	6.34	5.52	87.1	19.40			
60	2.79	4.11	8.92	7.30	81.8	17.57	1.74	1.71	1.14	25	6.65	3.22	8.16	5.48	67.2	19.94			
<b>P. 14; 1937 4. VIII.</b>																			
0	18.11	3.48	6.40	6.00	93.8	19.18	1.05	1.03	1.27	<b>P. 20; 1937 7. VIII.</b>									
20	7.98	3.71	7.87	7.32	93.0					0	19.03	2.95	6.32	5.68	89.9	19.61	0.84	0.82	1.08
30	4.40	3.78				17.39				5	19.01	2.92	6.33	5.44	85.9	19.51			
40	3.73	3.79	8.73	7.72	88.4					<b>P. 21; 1937 10. VIII.</b>									
<b>P. 15; 1937 10. VIII.</b>																			
0	20.29	3.14	6.17	5.84	94.7	20.30	1.00	0.98	1.38	0	20.14	2.96	6.21	5.84	94.0	19.35	1.17	1.13	1.54
20	19.50	3.14	6.25	5.61	89.8	19.21				10	18.79	3.01	6.34	5.52	87.1	19.40			
30	17.30	3.14	6.50	4.03	62.0	21.91				25	6.65	3.22	8.16	5.48	67.2	19.94			
<b>P. 22; 1937 10. VIII.</b>																			
0	19.59	3.48	6.23	6.21	99.7	17.80	0.99	0.97	1.30	<b>P. 23; 1937 10. VIII.</b>									
20	11.80	3.83	7.53	7.03	92.3					0	19.59	3.48	6.23	6.21	99.7	17.80	0.99	0.97	1.30

Tabel nr. 14.

Vaatlusajad, vaatluskohtade geograafilised  
koordinaadid ja sügavused 1938. a.

The Time, Geographical Coordinates and  
Depths of the Observation Points 1938.

Nr.	Vaatlusaeg Date		$\varphi$	$\lambda$	m
1 A	16. VIII	14 <sup>h</sup> 20 <sup>m</sup>	59°33'	27°47'	36
1	" "	13 00	59 38	27 27	40
2	" "	11 05	59 47	27 05	66
3	" "	7 30	59 52	26 17	80
4	15. "	14 30	59 50	25 37	76
5	" "	10 34	59 43	25 01	109
6	22. VII	14 40	59 36.5	24 21	90
7	25. "	7 40	59 30	23 44	81
8	" "	16 15	59 26	23 09	95
9	26. "	9 10	59 14	22 11	120
10	30. "	7 10	59 05	21 52	48
11	" "	9 50	58 54.5	21 14	75
12	" "	13 10	58 30.5	21 13	103
13 A	4. VIII	9 02	58 09	21 27	37
14	" "	11 15	57 53	21 32	62
15	" "	13 45	57 42	21 56	26
16	" "	16 30	57 55	22 32	27
17	" "	19 35	57 52	23 16	47
18	5. "	11 15	57 55	23 50	30
19	" "	13 15	58 04	24 12	18
20	" "	15 15	58 18	24 25	8
21	8. "	19 15	58 10	23 40	26
22	" "	21 20	58 33.5	23 28	17
23	9. "	12 15	58 49	23 14	8
24	" "	14 00	59 03	23 04	14

Selgitusi järgnevatele tabelitele (nr. 15, 16, 17, 18) vt. lk. 3.

For explications to the following tables (15, 16, 17, 18) see  
p. 4—5.

Tabel nr. 15.

Merevee temperatuur ( $t^\circ$ ), soolsus ( $S\%$ ), tihedus *in situ* ( $\sigma_t$ ) m meetri sügavusel 1938. a. suvel.

Temperature ( $t^\circ$ ), Salinity ( $S\%$ ), Density *in situ* ( $\sigma_t$ ) of Sea Water at the Depth of m Metres in Summer 1938.

m	$t^\circ$	$S\%$	$\sigma_t$	m	$t^\circ$	$S\%$	$\sigma_t$	m	$t^\circ$	$S\%$	$\sigma_t$
<b>P. 1A;</b> 1938 16. VIII 14 <sup>h</sup> 20 <sup>m</sup> $\varphi=59^\circ33'$ , $\lambda=27^\circ47'$ , 36 m				<b>P. 3;</b> 1938 16. VIII 7 <sup>h</sup> 30 <sup>m</sup> $\varphi=59^\circ52'$ , $\lambda=26^\circ17'$ , 80 m				20	12.7	6.26	4.33
0	21.7	4.20	1.08	0	20.5	5.63	2.24	30	10.1	6.31	4.68
5	20.9	4.20	1.27	5	20.3	5.59	2.45	40	4.9	6.19	4.95
10	19.8	4.98	2.09	10	20.3	5.45	2.34	50	4.8	6.42	5.14
15	15.8	4.90	2.80	15	15.6	5.50	3.29	60	3.9	7.34	5.89
20	9.8	5.52	4.09	20	11.4	5.70	4.07	70	4.2	8.53	6.83
30	3.4	5.90	4.75	30	8.2	5.84	4.49	80	4.5	9.40	7.51
S 5.4, T=24.2°, R=65%, S=2, C=4/10.				40	4.6	6.17	4.95	90	4.6	9.58	7.65
				50	3.8	6.64	5.34	100	4.7	9.63	7.69
				60	3.9	7.34	5.89	ESE 3.1, T=21.3°, R=63%, S=1, C=0/10.			
				75	4.0	8.41	6.74				
<b>P. 1;</b> 1938 16. VIII 13 <sup>h</sup> 00 <sup>m</sup> $\varphi=59^\circ38'$ , $\lambda=27^\circ27'$ , 40 m				SSW 5.1, T=20.3°, R=68%, S=3, C=10/10.				<b>P. 6;</b> 1938 22. VII 14 <sup>h</sup> 40 <sup>m</sup> $\varphi=59^\circ36'.5$ , $\lambda=24^\circ21'90 m$			
0	21.5	4.96	1.70					0	18.7	6.62	3.57
5	21.0	4.99	1.84					5	18.5	6.58	3.58
10	18.8	5.03	2.34					10	17.9	6.55	3.67
15	11.3	5.25	3.72					15	13.0	6.53	4.50
20	10.8	5.57	4.03					20	11.1	6.46	4.69
30	5.6	5.57	4.44					30	6.3	6.17	4.88
35	4.6	5.68	4.56					40	8.7	6.44	4.91
ESE 2.8, T=22.0°, R=76%, S=2, C=9/10.								50	6.0	6.46	5.14
								60	5.7	6.83	5.43
								70	4.8	9.13	7.28
								80	4.7	9.61	7.66
<b>P. 2;</b> 1938 16. VIII 11 <sup>h</sup> 05 <sup>m</sup> $\varphi=59^\circ47'$ , $\lambda=27^\circ05'$ , 66 m				<b>P. 4;</b> 1938 15. VIII 14 <sup>h</sup> 30 <sup>m</sup> $\varphi=59^\circ50'$ , $\lambda=25^\circ37'$ , 76 m				NE 6.1, T=20.0°, R=84%, S=4, C=0/10.			
0	21.2	4.87	1.70	0	20.5	5.52	2.36				
5	21.0	4.87	1.75	5	20.4	5.50	2.41				
10	20.6	4.90	1.86	10	18.9	5.63	2.78				
15	15.6	5.45	3.26	15	13.4	5.59	3.72				
20	10.0	5.41	3.99	20	9.8	5.81	4.32				
30	7.6	5.63	4.37	30	7.1	6.04	4.72				
40	4.4	5.79	4.65	40	5.6	6.38	5.08				
50	3.0	6.17	4.98	50	3.4	6.60	5.22				
60	3.3	6.71	5.40	60	3.4	7.41	5.96				
ESE 3.0, T=21.0°, R=83%, S=2, C=2/10.				70	4.1	8.41	6.74				
				E 6.0, T=20.8°, R=69%, S=3, C=0/10.							
								<b>P. 7;</b> 1938 25. VII 7 <sup>h</sup> 40 <sup>m</sup> $\varphi=59^\circ30'$ , $\lambda=23^\circ44'$ , 81 m			
				<b>P. 5;</b> 1938 15. VIII 10 <sup>h</sup> 34 <sup>m</sup> $\varphi=59^\circ43'$ , $\lambda=25^\circ01'$ , 109 m				0	18.5	6.53	3.55
				0	21.8	5.84	2.30	5	18.3	6.53	3.59
				5	20.2	5.99	2.78	8	14.5	6.55	4.28
				10	20.4	5.95	2.70	10	12.0	6.62	4.70
				15	15.1	6.17	3.90	20	10.7	6.73	4.94
								30	10.3	6.80	5.04

m	t <sup>o</sup>	S <sup>o</sup> / <sub>100</sub>	σ <sub>t</sub>	m	t <sup>o</sup>	S <sup>o</sup> / <sub>100</sub>	σ <sub>t</sub>	m	t <sup>o</sup>	S <sup>o</sup> / <sub>100</sub>	σ <sub>t</sub>
40	9.7	6.80	5.11	<b>P. 10;</b> 1938 30. VII 7 <sup>h</sup> 10 <sup>m</sup>				<b>P. 13 A;</b> 1938 4. VIII 9 <sup>h</sup> 02 <sup>m</sup>			
50	6.5	6.85	5.40	φ=59°05', λ=21°52', 48 m				φ=58°09', λ=21°27', 37 m			
60	4.9	6.98	5.58	0	19.0	6.42	3.36	0	18.5	6.53	3.54
75	4.1	8.19	6.56	5	18.9	6.42	3.38	5	18.3	6.55	3.60
SE 2.0, T=19.0°, R=90%, S=1, C=7/10.				10	15.2	6.60	4.22	10	18.4	6.55	3.58
<b>P. 8;</b> 1938 25. VII 16 <sup>h</sup> 15 <sup>m</sup>				20	12.3	6.65	4.69	20	14.0	6.89	4.63
φ=59°26', λ=23°09', 95 m				30	11.6	6.76	4.86	30	13.0	7.00	4.86
0	18.3	6.46	3.53	40	9.0	6.83	5.20	35	11.3	7.00	5.08
5	17.5	6.47	3.69	45	6.9	6.89	5.40	NNE 5.6, T=17.2°, R=62%, S=4, C=6/10.			
7	16.5	6.53	3.93	NNW 4.0, T=19.4°, R=79%, S=3, C=0/10.				<b>P. 14;</b> 1938 4. VIII 11 <sup>h</sup> 15 <sup>m</sup>			
10	11.9	6.49	4.62	<b>P. 11;</b> 1938 30. VII 9 <sup>h</sup> 50 <sup>m</sup>				φ=57°53', λ=21°32', 62 m			
20	10.5	6.67	4.91	φ=58°54'.5, λ=21°14', 75 m				0	18.4	6.80	3.77
30	8.8	6.69	5.11	0	18.6	6.19	3.26	5	18.2	6.85	3.85
40	5.1	6.65	5.32	5	18.2	6.19	3.34	10	18.1	6.78	3.81
50	4.1	6.80	5.46	10	14.9	6.19	3.94	20	11.2	6.98	5.08
60	4.1	6.89	5.53	20	10.6	6.55	4.81	30	8.3	6.98	5.37
70	3.5	7.30	5.88	30	8.2	6.78	5.23	40	6.0	7.12	5.65
90	4.9	10.14	8.08	40	4.9	6.91	5.52	55	4.4	7.39	5.91
NE 4.2, T=19.0°, R=92%, S=1, C=10/10, ⊙.				50	4.1	7.00	5.62	NNE 3.4, T=17.5°, R=61%, S=3, C=1/10.			
<b>P. 9;</b> 1938 26. VII 9 <sup>h</sup> 10 <sup>m</sup>				60	3.5	8.26	6.64	<b>P. 15;</b> 1938 4. VIII 13 <sup>h</sup> 45 <sup>m</sup>			
φ=59°14', λ=22°11', 120 m				70	4.0	8.22	6.59	φ=57°42', λ=21°56', 26 m			
0	18.1	6.62	3.69	NW 2.4, T=19.2°, R=81%, S=2, C=1/10.				0	19.6	6.11	3.00
5	18.0	6.58	3.68	<b>P. 12;</b> 1938 30. VII 13 <sup>h</sup> 10 <sup>m</sup>				5	19.3	6.13	3.08
10	17.4	6.60	3.82	φ=58°30'.5, λ=21°13', 103 m				10	18.8	6.15	3.19
15	13.0	6.64	4.58	0	19.6	6.33	3.17	15	14.0	6.35	4.21
20	11.9	6.69	4.77	5	18.6	6.37	3.40	20	10.9	6.24	4.51
30	11.1	6.73	4.90	10	14.7	6.64	4.32	NNW 2.8, T=17.7°, R=65%, S=3, C=2/10.			
40	5.2	6.73	5.37	20	11.2	6.64	4.82	<b>P. 16;</b> 1938 4. VIII 16 <sup>h</sup> 30 <sup>m</sup>			
50	5.0	6.89	5.51	30	11.1	6.87	5.00	φ=57°55', λ=22°32', 27 m			
60	3.9	7.29	5.85	40	5.1	6.89	5.50	0	20.5	5.26	2.16
70	4.1	8.57	6.85	50	4.9	7.05	5.64	5	19.8	5.41	2.42
80	4.7	9.58	7.64	60	4.0	7.21	5.79	10	18.0	5.54	2.88
90	4.8	9.99	7.97	70	4.1	8.44	6.76	15	10.7	5.84	4.25
100	4.9	10.30	8.21	80	4.5	9.60	7.67	20	10.3	5.99	4.41
110	5.0	10.39	8.28	100	4.1	10.46	8.37	25	7.5	5.95	4.63
S 7.1, T=18.3°, R=90%, S=4, C=10/10.				W 2.2, T=19.5°, R=78%, S=1, C=0/10.				—0, T=18.1°, R=57%, S=1, C=1/10.			

Tabel nr. 16.

Hapnik, leelisuus ja vabasisihappe rõhk 1938. a.  
Oxygen, Alkalinity, and Pressure of Free Carbonic Acid 1938.

m	t°	Cl <sup>o</sup> / <sub>100</sub>	O <sub>2</sub> '	O <sub>2</sub>	$\frac{O_2}{O_2'} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>h</sub>	Θ <sub>t</sub>	m	t°	Cl <sup>o</sup> / <sub>100</sub>	O <sub>2</sub>	$\frac{O_2}{O_2'} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>h</sub>	Θ <sub>t</sub>
<b>P. 1 A; 1938 16. VIII.</b>																		
0	21.7	2.31	6.08	5.58	91.8	14.83	1.45	1.43	1.80	0	19.0	3.54	6.29	6.37	101.3	17.47	1.07	1.32
20	9.8	3.04	7.59	5.58	72.9	16.51				10	15.2	3.64	6.74	8.38	124.3?	18.00		
30	3.4	3.25	8.86	5.63	63.5	17.69				30	11.6	3.73	7.25	6.60	91.0	17.47		
										45	6.9	3.80	8.07	5.95	73.7	16.51	0.83	0.57
<b>P. 1; 1938 16. VIII.</b>																		
0	21.5	2.73	6.08	5.32	87.5	13.69	0.75	0.74	1.00	0	18.6	3.41	6.34	6.45	101.7	15.03	1.28	1.48
20	10.8	3.07	7.42	6.02	81.1	15.75				20	10.6	3.61	7.42	7.04	94.9	15.66		
35	4.6	3.13	8.60	6.43	74.8	17.24				40	4.9	3.81	8.47	7.53	88.9	16.48		
										60	3.5	4.56	8.71	7.12	81.7	16.56		
										70	4.0	4.54	8.60	4.85	56.4	20.05	0.65	0.40
<b>P. 2; 1938 16. VIII.</b>																		
0	21.2	2.68	6.11	5.44	89.0	14.55	0.92	0.91	1.14	0	19.6	3.49	6.23	6.41	102.9	15.42	0.37	0.56
20	10.0	2.98	7.56	6.10	80.7	16.84				20	11.2	3.66	7.32	6.72	91.8	16.62		
40	4.4	3.19	8.64	6.91	80.0	16.04				40	5.1	3.80	8.43	7.47	88.6	16.45		
60	3.3	3.70	8.84	4.30	48.6	20.10	0.80	0.79	0.40	60	4.0	3.98	8.65	7.72	89.2	16.68		
										80	4.5	5.30	8.42	2.21	26.2	19.91		
										100	4.1	5.78	8.47	2.26	26.7	19.49	4.20	2.80
<b>P. 3; 1938 16. VIII.</b>																		
0	20.5	3.10	6.16	5.77	93.6	16.12	0.85	0.84	1.02	0	18.5	3.60	6.34	6.27	98.9	16.80	1.32	1.49
20	11.4	3.14	7.32	5.79	79.1	16.79				20	14.0	3.80	6.90	5.87	85.1	17.10		
40	4.6	3.40	8.57	6.74	78.6	17.26	0.71	0.70	0.37	35	11.3	3.86	7.29	5.67	77.7	18.64	1.75	1.47
60	3.9	4.05	8.67	4.67	53.9	20.05	1.08	1.07	0.59	0	18.5	3.60	6.34	6.27	98.9	16.80	1.32	1.49
75	4.0	4.64	8.59	2.33	27.1	19.16	1.08	1.07	0.59	20	14.0	3.80	6.90	5.87	85.1	17.10		
<b>P. 4; 1938 15. VIII.</b>																		
0	20.5	3.04	6.16	5.71	92.7	16.37	1.35	1.33	1.57	0	18.4	3.75	6.35	6.18	97.3	17.44	0.65	0.76
20	9.8	3.20	7.58	6.11	80.6	15.95	0.78	0.77	0.50	20	11.2	3.85	7.30	6.45	88.4	18.03		
40	5.6	3.52	8.36	6.98	83.5	17.10				40	6.0	3.93	8.24	7.22	87.6	17.43		
60	3.4	4.09	8.77	5.02	57.2					55	4.4	4.08	8.55	7.41	86.7	17.21	0.55	0.33

Tabel nr. 18.  
 Läbipaistvuse vaatlused 1938. a.  
 Observations of Transparency 1938.

Nr.	Vaatlusaeg Date	m	Meri Sea Motion 0—9	Pilvitus Cloudiness 0—10
1 A	16. VIII 38 14 <sup>h</sup> 20 <sup>m</sup>	11	2	4
1	„ 13 00	12.5	2	9
2	„ 11 05	8	2	2
3	„ 7 30	7	3	10
4	15. VIII 38 14 30	7	3	0
5	„ 10 34	9	1	0
6	22. VII 38 14 40	8.5	4	0
7	25. VII 38 7 40	7.5	1	7
8	„ 16 15	9	1	10
9	26. VII 38 9 10	10	4	10
10	30. VII 38 7 10	10	3	0
11	„ 9 50	9.5	2	1
12	„ 13 10	10.5	1	0
13 A	4. VIII 38 9 02	10.5	4	6
14	„ 11 15	11.0	3	1
15	„ 13 45	8.5	3	2
16	„ 16 30	7	1	1
17	„ 19 35	6.5	4	1
18	5. VIII 38 11 15	12.5	1	0
19	„ 13 15	7	0	0
20	„ 15 15	5	3	1
21	8. VIII 38 19 15	6	2	6
22	„ 21 20	5	3	1
23	9. VIII 38 12 15	8	0	1
24	„ 14 00	9.5	1	1

## **Hüdroloogilised vaatlused 1939. a.**

Järgnevad hüdroloogilised vaatlused on toimetatud autori poolt mag. L. Prants'u kaasabil juunis ja juulis 1939. a. Veeteede Talitusele kuuluval mootorlaeval „Meripöeg“.

Vaatlusajad, vaatluskohtade geograafilised koordinaadid ja sügavused on antud tabelis nr. 19.

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## **The Thalassological Observations in 1939.**

The observations were made by the author with the assistance of mag. L. Prants in June and July 1939, from m. s. "Meripöeg", belonging to the Department of Waterways in Estonia.

The time, geographical coordinates and depths of the observation points are given in table 19.

Tabel nr. 19.

Vaatlusajad, vaatluskohtade geograafilised  
koordinaadid ja sügavused 1939. a.

The Time, Geographical Coordinates and  
Depths of the Observation Points 1939.

Nr.	Vaatlusaeg Date		$\varphi$	$\lambda$	m
1A	14. VI	7 <sup>h</sup> 15 <sup>m</sup>	59°33'	27°47'	32
1	„ „	8 45	59 38	27 27	42
2	„ „	14 50	59 47	27 05	59
3	„ „	20 25	59 52	26 17	80
4	15. „	11 15	59 50	25 37	78
5	16. „	10 35	59 43	25 01	112
6A	„ „	14 30	59 36	24 41	80
6B	„ „	13 05	59 41	24 37	89
7A	29. „	13 25	59 32	24 18.5	85
7	30. „	10 40	59 30	23 44	82
8A	„ „	13 10	59 23	23 14	129
12A	7. VII	17 40	58 38.5	22 04	41
12	„ „	13 45	58 30.5	21 13	100
13	„ „	11 05	58 16	21 00	50
14	„ „	7 20	57 53	21 32	62
15	6. „	15 40	57 42	21 56	27
16	„ „	12 45	57 55	22 32	30
17	5. „	17 15	57 52	23 16	36
18	4. „	14 30	57 55	23 50	33
19	„ „	16 20	58 04	24 12	19
20	„ „	18 30	58 18	24 25	8
21A	„ „	7 00	58 06	23 19	40
22	3. „	13 10	58 33.5	23 28	18.5
23	„ „	7 55	58 49	23 13	8
24	30. VI	18 00	59 03	23 04	14

Selgitusi järgnevatele tabelitele (nr. 20, 21, 22, 23) vt. lk. 3.

For explanations to the following tables (20, 21, 22, 23) see  
p. 4—5.

m	t°	S°/00	$\sigma_t$	m	t°	S°/00	$\sigma_t$	m	t°	S°/00	$\sigma_t$
20	7.0	6.11	4.79	<b>P. 19;</b> 1939 4. VII 16 <sup>h</sup> 20 <sup>m</sup> $\varphi=58^{\circ}04'$ , $\lambda=24^{\circ}12'$ , 19 m				<b>P. 22;</b> 1939 3. VII 13 <sup>h</sup> 10 <sup>m</sup> $\varphi=58^{\circ}33'.5$ , $\lambda=23^{\circ}28'$ , 18.5 m			
27	7.0	6.20	4.86	0	16.7	5.48	3.09	0	17.8	6.37	3.56
--0, T=17.7°, R=86%, S=0, C=1/10.				5	16.6	5.55	3.17	5	17.3	6.35	3.64
<b>P. 17;</b> 1939 5. VII 17 <sup>h</sup> 15 <sup>m</sup> $\varphi=57^{\circ}52'$ , $\lambda=23^{\circ}16'$ , 36 m				10	16.5	5.48	3.13	10	17.0	6.33	3.69
0	16.7	5.84	3.36	15	12.4	5.57	3.83	15	16.7	6.37	3.77
5	16.3	5.84	3.44	W 8.0, T=15.4°, R=69%, S=5, C=1/10.				WNW 5.7, T=17.0°, R=60%, S=2, C=7/10.			
10	15.8	5.79	3.49	<b>P. 20;</b> 1939 4. VII 18 <sup>h</sup> 30 <sup>m</sup> $\varphi=58^{\circ}18'$ , $\lambda=24^{\circ}25'$ , 8 m				<b>P. 23;</b> 1939 3. VII 7 <sup>h</sup> 55 <sup>m</sup> $\varphi=58^{\circ}49'$ , $\lambda=23^{\circ}13'$ , 8 m			
15	12.8	5.75	3.93	0	18.9	5.37	2.58	0	18.0	6.60	3.70
20	8.7	5.73	4.36	5	18.8	5.37	2.61	5	18.0	6.65	3.74
30	7.2	5.86	4.57	7	18.7	5.28	2.56	7	18.0	6.67	3.75
WSW 4.7, T=17.7°, R=75%, S=1, C=1/10.				W 8.2, T=18.3°, R=65%, S=3, C=2/10.				WSW 7.0, T=16.2°, R=79%, S=2, C=8/10.			
<b>P. 18;</b> 1939 4. VII 14 <sup>h</sup> 30 <sup>m</sup> $\varphi=57^{\circ}55'$ , $\lambda=23^{\circ}50'$ , 33 m				<b>P. 21A;</b> 1939 4. VII 7 <sup>h</sup> 00 <sup>m</sup> $\varphi=58^{\circ}06'$ , $\lambda=23^{\circ}19'$ , 40 m				<b>P. 24;</b> 1939 30. VI 18 <sup>h</sup> 00 <sup>m</sup> $\varphi=59^{\circ}03'$ , $\lambda=23^{\circ}04'$ , 14 m			
0	15.8	5.70	3.43	0	15.8	6.33	3.90	0	16.0	6.51	4.00
5	15.5	5.66	3.44	5	16.0	6.04	3.64	5	14.3	6.51	4.29
10	15.5	5.81	3.55	10	16.0	6.02	3.63	10	14.3	6.51	4.29
20	11.8	5.68	4.00	20	15.9	5.95	3.59	--0, T=18.2°, R=84%, S=0, C=10/10.			
25	9.4	5.73	4.30	30	6.4	6.00	4.73				
30	4.9	5.88	4.70	SW 5.0, T=15.0°, R=87%, S=3, C=5/10.							
W 9.0, T=15.0°, R=73%, S=5, C=2/10.											

Hapnik, leelisus ja vabasisihappe rõhk 1939. a.  
Oxygen, Alkalinity, and Pressure of Free Carbonic Acid 1939.

m	t°	Cl <sup>0</sup> / <sub>100</sub>	O <sub>2</sub> '	O <sub>2</sub>	$\frac{O_2}{O_2} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>t</sub>	Θt	m	t°	Cl <sup>0</sup> / <sub>100</sub>	O <sub>2</sub> '	O <sub>2</sub>	$\frac{O_2}{O_2} \cdot 100$	A	Θ <sub>1</sub>	Θ <sub>t</sub>	Θt
<b>P. 1 A; 1939 14. VI.</b>																			
0	12.0	2.52	7.27	7.36	101.2	14.01	2.40	2.34	1.01	40	2.8	3.48	8.98	7.98	88.8	18.34			
20	9.5	2.59	7.68	7.17	93.4	14.23				60	4.4	4.66	8.50	3.97	46.7	19.45			
30	3.5	3.00	8.86	7.13	80.5	15.34	4.05	3.95	1.64	80	4.7	5.25	8.38	1.84	22.0	20.45			
										105	4.9	5.33	8.33	1.76	21.1	19.90	4.30	4.20	1.78
<b>P. 1; 1939 14. VI.</b>																			
0	12.4	2.54	7.21	7.48	103.7	16.01	2.35	2.29	0.99	0	11.3	3.22	7.33	7.40	101.0	16.45	1.00	0.98	0.05
20	8.9	2.62	7.79	7.29	93.6	17.12				20	9.1	3.28	7.70	7.40	96.1	16.04			
40	3.3	3.40	8.87	6.30	71.0	16.23	1.75	1.71	0.93	40	4.2	3.55	8.65	7.60	87.9	17.12	2.55	2.49	0.89
<b>P. 2; 1939 14. VI.</b>																			
0	12.7	2.72	7.16	7.58	105.9	14.23	1.40	1.37	0.41	60	3.7	4.10	8.71	6.02	69.1	17.01	3.40	3.31	1.39
20	8.2	2.95	7.88	7.95	100.9	16.34				75	5.0	5.26	8.31	2.07	24.9	18.90	3.40	3.31	1.39
40	3.0	3.41	8.93	6.99	78.3	16.56				<b>P. 6 B; 1939 16. VI.</b>									
55	4.5	4.18	8.52	4.24	49.8	17.79	2.50	2.44	0.85	0	11.6	3.18	7.29	7.66	105.1	15.12	1.90	1.86	0.74
<b>P. 3; 1939 14. VI.</b>																			
0	11.1	2.91	7.39	7.78	105.2	15.13	2.55	2.49	1.14	20	7.9	3.39	7.91	7.61	96.2	17.79			
20	8.3	2.97	7.87	7.73	98.2	15.12				40	3.5	3.56	8.81	8.01	90.9	15.90	1.15	1.12	0.11
40	3.3	3.40	8.87	7.76	87.5	17.79				50	3.3	3.73	8.84						
60	4.5	4.67	8.48	3.62	42.7	20.01				60	3.6	4.06	8.73	6.38	73.1	16.90	4.45	4.35	2.00
75	4.6	4.96	8.43	2.51	29.8	18.34	3.65	3.56	1.54	80	5.0	5.42	8.30	1.64	19.8	18.90	4.45	4.35	2.00
<b>P. 4; 1939 15. VI.</b>																			
0	11.4	3.05	7.33	7.14	97.4	15.12				<b>P. 7 A; 1939 29. VI.</b>									
20	7.4	3.10	8.02	7.96	99.2	15.12				0	14.6	3.34	6.84	6.88	100.6	16.12	1.75	1.71	0.81
40	2.8	3.51	8.97	7.98	88.9	16.45	2.45	2.40	0.82	20	4.2	3.56	8.65	8.20	94.8	16.23			
60	4.2	4.54	8.56							40	3.5	3.82	8.78	8.22	93.9	16.34			
74	4.7	5.10	8.40	2.39	28.5	18.34	1.80	1.75	0.51	60	3.8	4.15	8.68	6.06	69.8	18.90	3.75	3.67	1.65
<b>P. 5; 1939 16. VI.</b>																			
0	11.2	3.02	7.36	7.45	101.2	17.35	1.95	1.91	0.72	0	13.4	3.44	7.00	6.99	99.9	16.56	1.45	1.42	0.52
20	6.5	3.13	8.20	7.44	90.7	17.45				20	6.2	3.55	8.23	7.87	95.6	16.23			
										40	3.4	3.71	8.82	7.83	88.8	17.79			
										60	4.4	4.67	8.50	4.19	49.3	16.90	3.85	3.76	1.71
										75	5.3	5.46	8.24	1.74	21.1	18.78	3.85	3.76	1.71

Vaatlusreg Date		$\varphi$	$\lambda$	$t^{\circ}$	$S/_{\infty}$
6. VII 39	15 <sup>h</sup> 40 <sup>m</sup>	57°42'	21°56'	17.4	6.67
"	17 05	57 52	22 05	17.8	6.04
7. VII 39	6 30	57 49.5	21 46	15.9	6.91
"	7 20	57 53	21 32	16.0	6.78
"	8 45	57 52	21 29	15.8	6.47
"	9 55	58 07.5	21 12	16.4	6.51
"	11 05	58 16	21 00	16.1	6.62
"	12 35	58 23	21 06	16.7	6.62
"	13 45	58 30.5	21 13	16.7	6.40
"	15 30	58 34	21 29	17.0	6.35
"	16 35	58 36	21 47	17.9	6.58
"	17 40	58 38.5	22 04	17.0	6.44
"	18 45	58 40	22 15.5	16.9	6.60

Tabel nr. 23.  
 Läbipaistvuse vaatlused 1939. a.  
 Observations of Transparency 1939.

Nr.	Vaatlusaeg Date		m	Meri Sea Motion 0—9	Pilvitus Cloudiness 0—10
1 A	14. VI 39	7 <sup>h</sup> 15 <sup>m</sup>	9	0	2
1	"	8 45	9	1	8
2	"	14 50	8	0	10
3	"	20 25	8	2	5
4	15. VI 39	11 15	9	1	9
5	16. VI 39	10 35	9.5	1	2
6 A	"	14 30	11	1	1
6 B	"	13 05	10	1	1
7 A	29. VI 39	13 25	9.5	0	3
7	30. VI 39	10 40	10	1	10
8 A	"	13 10	8	1	10
12 A	7. VII 39	17 40	11.5	1	1
12	"	13 45	11	2	5
13	"	11 05	11	1	4
14	"	7 20	12	1	2
15	6. VII 39	15 40	10	0	1
16	"	12 45	8	0	1
17	5. VII 39	17 15	9	1	1
18	4. VII 39	14 30	5	5	2
19	"	16 20	5.5	5	1
20	"	18 30	2	3	2
21 A	"	7 00	9	3	5
22	3. VII 39	13 10	4	2	7
23	"	7 55	5	2	8
24	30. VI 39	18 00	7	0	10

*Avaldamiseks saadud 1. novembril 1939. Received November 1, 1939.*

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