

this reduction has not been carried out. According to Grassi, the increase of density in a water of 1.026 at one atmosphere is 0.00079 per 100 fathoms. From Mr. Buchanan's observations on the compressibility of distilled water, of sea water, and of glass, it was found that sea water was compressed approximately in the ratio 0.0009 for every hundred fathoms of depth in sea water, so that if the density of a water at the surface is 1.027, at 1000 fathoms it is 1.036, at 2000 fathoms 1.045, at 3000 fathoms 1.054, and at 4000 fathoms it is 1.063.

In Table I. the density of sea water of average concentration is given for every whole centigrade degree from 0° C. to 31° C. It will be observed that its density at 15°.56 C.

TABLE I.¹—*Density of Standard Sea Water ($D_{15.56} = 1.026$) at different Temperatures.*

Temperature, t° C.	Density at t° C., D_t .	$\phi(t) =$ $\frac{D_t}{D_{15.56}}$.	$\frac{1}{\phi(t)} =$ $\frac{D_{15.56}}{D_t}$.	Temperature, t° C.	Density at t° C., D_t .	$\phi(t) =$ $\frac{D_t}{D_{15.56}}$.	$\frac{1}{\phi(t)} =$ $\frac{D_{15.56}}{D_t}$.
0	1.02818	1.0514	0.9511	16	1.02590	0.9989	1.0011
1	813	468	553	17	567	966	034
2	807	422	595	18	542	944	056
3	799	382	632	19	516	922	079
4	790	343	669	20	490	905	096
5	779	309	700	21	463	884	117
6	768	271	737	22	436	869	132
7	755	238	768	23	408	849	153
8	741	205	799	24	380	834	168
9	726	173	830	25	351	815	188
10	710	142	860	26	321	802	202
11	692	116	885	27	290	784	221
12	674	086	915	28	259	766	240
13	654	061	940	29	227	749	258
14	634	037	964	30	195	726	282
15	613	013	987	31	163	705	304

¹ Abridged from the Report on Researches into the Composition of Ocean-Water, Phys. Chem. Chall. Exp., part i. p. 70, 1884.