

Calculations of Longitudinal, or Transverse, Metacentres and Centres of Buoyancy of the Composite Tea Clipper "Cutty Sark," built at Dumbarton by Messrs Scott & Linton in 1869, under the Special Survey of the Surveyors to Lloyd's Register of Shipping, and Classed +16A1.

THESE CALCULATIONS HAVE BEEN MADE FROM THE LINES OF THE VESSEL CONSTRUCTED FROM MEASUREMENTS AND PARTICULARS OF THE VESSEL OBTAINED WHILE IN DRY DOCK AT THE "UNION DOCKS" OF MESSRS FLETCHER, SON & FARNELL, LIMITED, LIMEHOUSE, LONDON, JANUARY 1922.

CHAS. H. JORDAN, M. Inst. N.A.

Stations.	2 nd Water Line.			3 rd Water Line.			20 th Water Line.		
	Ords.	Cubes.	Mult. Functions.	Ords.	Cubes.	Mult. Functions.	Ords.	Cubes.	Mult. Functions.
Stem	0	0	1	0	0	1	0	0	1
1	1.5	3.4	4	13.6	2.3	12.2	4	48.8	3.4
2	3.6	46.7	2	93.4	5.2	140.6	2	281.2	6.7
3	6.2	238.3	4	953.2	8.2	551.4	4	2205.6	9.7
4	8.9	705.0	2	1410.0	11.1	1367.6	2	2735.2	12.6
5	11.6	1481.5	4	5926.0	13.5	2460.6	4	9841.6	16.4
6	13.7	2571.4	2	5162.8	15.4	3652.3	2	7306.6	16.0
7	15.3	3581.6	4	14326.4	16.6	4570.3	4	18297.2	16.8
8	16.4	4410.9	2	8821.8	17.3	5177.7	2	10355.4	17.3
9	17.1	5080.2	4	20000.8	17.7	5565.2	4	22180.8	17.5
10	17.4	5268.0	2	10536.0	18.0	5832.0	2	11664.0	17.7
11	17.3	5177.7	4	20710.8	18.0	5832.0	4	23328.0	17.7
12	16.8	4741.6	2	9483.2	17.8	5639.3	2	11279.6	17.6
13	15.8	3964.3	4	15777.2	17.4	5268.0	4	21072.0	17.4
14	14.3	2924.2	2	5848.4	16.6	4570.3	2	9142.6	17.0
15	12.2	1815.0	4	7263.2	15.2	3511.2	4	14067.2	16.4
16	9.7	912.7	2	1825.4	13.2	2300.0	2	4600.0	15.2
17	6.8	314.4	4	1257.6	10.4	1124.9	4	4499.6	13.4
18	4.1	68.9	2	137.8	6.7	322.5	2	645.0	10.5
19	1.9	6.9	4	27.6	3.3	35.9	4	143.6	6.3
Sum	0	0	1	0	0	1	0	0	1
		12955.3			173690.1			191797.9	
		10.5			10.5			10.5	
		64777.65			969450.5			952929.5	
		12955.3			173690.1			191797.9	
		3/1360330.65			3/1823746.65			3/2013877.95	
		453463.55			607915.35			671293.65	
		2			2			2	
		3/946587.10			3/1215030.70			3/1342502.30	
		25445.82			48434.53			73498.03	
		11.77			2.56			6.08	
		Metacentre above			Metacentre above			Metacentre above	
		Centre of Buoy			Centre of Buoy			Centre of Buoy	
		at 24 ft. M.L.			at 24 ft. M.L.			at 24 ft. M.L.	

$$\begin{aligned}
 410.1 \times 1 &= 410.1 \times 0 \\
 266.3 \times 4 &= 1065.2 \times 1 = 1065.2 \\
 41.1 \times 1 &= 41.1 \times 2 = 82.2 \\
 1276.4 &= 1907.4 \\
 71 &= 2.35 \\
 358 &= 2.13 \\
 142 &= 1.66 \\
 1.66 &= 1.66 \\
 \text{C. of Buoy. below} &= 1.66 \\
 10 \text{ ft. M.L.} &
 \end{aligned}$$

$$\begin{aligned}
 632.3 \times 1 &= 632.3 \times 0 \\
 410.1 \times 4 &= 1640.4 \times 1 = 1640.4 \\
 41.1 \times 1 &= 41.1 \times 2 = 82.2 \\
 2312.2 &= 1722.4 \\
 74 &= 4.7 \\
 512 &= 3.74 \\
 3.74 &= 3.74 \\
 \text{C. of Buoy. below} &= 3.74 \\
 24 \text{ ft. M.L.} &
 \end{aligned}$$

$$\begin{aligned}
 733.9 \times 1 &= 733.9 \times 0 \\
 632.3 \times 3 &= 1896.9 \times 1 = 1896.9 \\
 410.1 \times 3 &= 1230.3 \times 2 = 2460.6 \\
 41.1 \times 1 &= 41.1 \times 3 = 123.3 \\
 3982.2 &= 1620.2 \\
 1.14 &= 4.7 \\
 790 &= 4.56 \\
 5.35 &= 5.35 \\
 \text{C. of Buoy. below} &= 5.35 \\
 24 \text{ ft. M.L.} &
 \end{aligned}$$

$$\begin{aligned}
 793.7 \times 1 &= 793.7 \times 0 \\
 733.9 \times 4 &= 2935.6 \times 1 = 2935.6 \\
 632.3 \times 2 &= 1264.6 \times 2 = 2529.2 \\
 410.1 \times 4 &= 1640.4 \times 3 = 4921.2 \\
 41.1 \times 1 &= 41.1 \times 4 = 164.4 \\
 6475.4 &= 10250.4 \\
 1.58 &= 6.7 \\
 7.42 &= 7.42 \\
 \text{C. of Buoy. below} &= 7.42 \\
 24 \text{ ft. M.L.} &
 \end{aligned}$$



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