

Calculations of Latitudinal, 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.

No. of Sections.	2 nd Water Line.				3 rd Water Line.				20 ^{ft} Water Line.			
	Ords.	Cubes.	Mults.	Functions.	Ords.	Cubes.	Mults.	Functions.	Ords.	Cubes.	Mults.	Functions.
Stem	0	0	1	0	0	0	1	0	0	0	1	0
1	1.5	3.4	4	18.6	2.3	12.2	4	48.8	3.4	39.3	4	157.2
2	3.6	46.7	2	93.4	5.2	140.6	2	281.2	6.7	300.8	2	601.6
3	6.2	238.3	4	953.2	8.2	551.4	4	2205.6	9.7	912.7	4	3650.8
4	8.9	705.0	2	1410.0	11.1	1367.6	2	2735.2	12.6	1906.6	2	3813.2
5	11.4	1481.5	4	5926.0	13.5	2460.4	4	9841.6	14.4	2986.0	4	11944.0
6	13.7	2571.4	2	5142.8	15.4	3652.3	2	7304.6	16.0	4096.0	2	8192.0
7	15.3	3581.6	4	14326.4	16.6	4574.3	4	18297.2	16.8	4741.6	4	18966.4
8	16.4	4410.9	2	8821.8	17.3	5177.7	2	10355.4	17.3	5177.7	2	10355.4
9	17.1	5000.2	4	20000.8	17.7	5545.2	4	22180.8	17.5	5359.4	4	21437.6
10	17.4	5268.0	2	10536.0	18.0	5832.0	2	11664.0	17.7	5545.2	2	11090.4
11	17.3	5177.7	4	20710.8	18.0	5832.0	4	23328.0	17.7	5545.2	4	22180.8
12	16.8	4741.6	2	9483.2	17.8	5639.8	2	11279.6	17.6	5451.8	2	10903.6
13	15.8	3944.3	4	15777.2	17.4	5268.0	4	21072.0	17.4	5268.0	4	21072.0
14	14.3	2924.2	2	5848.4	16.6	4574.3	2	9148.6	17.0	4913.0	2	9826.0
15	12.2	1815.8	4	7263.2	15.2	3511.8	4	14047.2	16.4	4410.9	4	17643.6
16	9.7	912.7	2	1825.4	13.2	2300.0	2	4600.0	15.2	3511.8	2	7023.6
17	6.8	314.4	4	1257.6	10.4	1124.9	4	4499.6	13.4	2406.1	4	9624.4
18	4.1	68.9	2	137.8	6.7	328.5	2	657.0	10.5	1157.6	2	2315.2
19	1.9	6.9	4	27.6	3.3	35.9	4	143.6	6.3	250.0	4	1000.0
S. Post	0.5	0.1	1	0.1	0.5	0.1	1	0.1	0.5	0.1	1	0.1
				129555.3				173690.1				191797.9
				10.5				10.5				10.5
				64777.65				86845.05				95898.95
				129555.3				173690.1				191797.9
				3/1360330.45				3/1823746.05				3/2013877.95
				453443.55				607915.35				671292.65
				2				2				2
				3/906887.10				3/1215830.70				3/1342585.30
				382295.70				405276.90				447528.43
				25665.82				48434.53				73498.03
				in cub. feet.				in cub. feet.				in cub. feet.
				11.77				8.36				6.08
				Metacentre above				Metacentre above				Metacentre above
				Centre of Buoy.				Centre of Buoy.				Centre of Buoy.
				at 2 nd W.L.				at 3 rd W.L.				at 20 feet W.L.

$$\begin{aligned}
 410.1 \times 1 &= 410.1 \times 0 \\
 206.3 \times 4 &= 825.2 \times 1 = 825.2 \\
 41.1 \times 1 &= 41.1 \times 2 = 82.2 \\
 1276.4 & \quad 1907.4 \\
 & \quad 71 \\
 & \quad 2.35 \\
 & \quad 355 \\
 & \quad 213 \\
 & \quad 142 \\
 & \quad 1.6685 = \\
 & \quad \text{C. of Buoy. below} \\
 & \quad 1^{\text{st}} \text{ W.L.}
 \end{aligned}$$

$$\begin{aligned}
 632.3 \times 1 &= 632.3 \times 0 \\
 410.1 \times 4 &= 1640.4 \times 1 = 1640.4 \\
 41.1 \times 1 &= 41.1 \times 2 = 82.2 \\
 2312.8 & \quad 1722.6 \\
 & \quad 74 \\
 & \quad 4.7 \\
 & \quad 518 \\
 & \quad 296 \\
 & \quad 3.478 = \\
 & \quad \text{C. of Buoy. below} \\
 & \quad 2^{\text{nd}} \text{ W.L.}
 \end{aligned}$$

$$\begin{aligned}
 733.9 \times 1 &= 733.9 \times 0 \\
 632.3 \times 3 &= 1896.9 \times 1 = 1896.9 \\
 410.1 \times 3 &= 1230.3 \times 2 = 2460.6 \\
 41.1 \times 1 &= 41.1 \times 3 = 123.3 \\
 3902.2 & \quad 14480.8 \\
 & \quad 1.14 \\
 & \quad 4.7 \\
 & \quad 798 \\
 & \quad 456 \\
 & \quad 5.368 = \\
 & \quad \text{C. of Buoy. below} \\
 & \quad 3^{\text{rd}} \text{ W.L.}
 \end{aligned}$$

$$\begin{aligned}
 793.7 \times 1 &= 793.7 \times 0 \\
 733.9 \times 4 &= 2935.6 \times 1 = 2935.6 \\
 632.3 \times 2 &= 1264.6 \times 2 = 2529.2 \\
 410.1 \times 4 &= 1640.4 \times 3 = 4921.2 \\
 41.1 \times 1 &= 41.1 \times 4 = 164.4 \\
 6675.4 & \quad 10550.4 \\
 & \quad 1.58 \\
 & \quad 4.7 \\
 & \quad 1106 \\
 & \quad 632 \\
 & \quad 7.426 = \\
 & \quad \text{C. of Buoy. below} \\
 & \quad 20 \text{ ft. W.L.}
 \end{aligned}$$