

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.	2 nd Water Line.			3 rd Water Line			20 ^{ft} Water Line.					
	Ords.	Cubes.	Mult. Functions.	Ords.	Cubes.	Mult. Functions.	Ords.	Cubes.	Mult. Functions.			
Sum	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	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	3521.6	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	5565.2	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	5639.2	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	17443.6
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	6.9	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. Sum	0.5	1	1	1	0.5	1	1	1	0.5	1	1	1
			129555.3				173690.1				191797.9	
			10.5				10.5				10.5	
			6477765				8684505				9529895	
			1295553				1736901				1917979	
			3/1360330.65				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	
			11.77				8.36				6.08	
			Metacentre above Centre of Buoy. at 2 nd W.L.				Metacentre above Centre of Buoy. at 3 rd W.L.				Metacentre above Centre of Buoy. at 20 ^{ft} W.L.	

$$\begin{aligned}
 410.1 \times 1 &= 410.1 \times 0 \\
 206.3 \times 4 &= 825.2 \times 1 = 825.2 \\
 41.1 \times 1 &= 41.1 \times 2 = 82.2 \\
 &1276.4 \quad \underline{1907.4} \\
 &2.35 \\
 &355 \\
 &213 \\
 &142 \\
 &\underline{1.6685} = \\
 &\text{C. of Buoy. below} \\
 &15' W.L.
 \end{aligned}$$

$$\begin{aligned}
 632.3 \times 1 &= 632.3 \times 0 \\
 410.1 \times 4 &= 1640.4 \times 1 = 1640.4 \\
 41.1 \times 1 &= 41.1 \times 2 = 82.2 \\
 &2312.9 \quad \underline{1722.6} \\
 &74 \\
 &4.7 \\
 &513 \\
 &296 \\
 &\underline{3.478} = \\
 &\text{C. of Buoy. below} \\
 &2' W.L.
 \end{aligned}$$

$$\begin{aligned}
 733.9 \times 1 &= 733.9 \times 0 \\
 632.3 \times 3 &= 1896.9 \times 1 = 1896.9 \\
 410.1 \times 3 &= 1230.3 \times 2 = 2460.6 \\
 41.1 \times 1 &= 41.1 \times 3 = 123.3 \\
 &3902.2 \quad \underline{4480.8} \\
 &1.14 \\
 &4.7 \\
 &798 \\
 &\underline{5.358} = \\
 &\text{C. of Buoy. below} \\
 &3' W.L.
 \end{aligned}$$

$$\begin{aligned}
 793.7 \times 1 &= 793.7 \times 0 \\
 733.9 \times 4 &= 2935.6 \times 1 = 2935.6 \\
 632.3 \times 2 &= 1264.6 \times 2 = 2529.2 \\
 410.1 \times 4 &= 1640.4 \times 3 = 4921.2 \\
 41.1 \times 1 &= 41.1 \times 4 = 164.4 \\
 &6675.4 \quad \underline{10580.4} \\
 &1.58 \\
 &4.7 \\
 &1106 \\
 &\underline{7426} = \\
 &\text{C. of Buoy. below} \\
 &20' W.L.
 \end{aligned}$$

