

Design hydrostatics report.

Designer**Created by****Comment****Filename**

2013_06_23_new_model_heel_15.fbm

Design length 21.326 (ft)**Midship location** 9.330 (ft)**Length over all** 21.270 (ft)**Relative water density** 1.025**Design beam** 9.843 (ft)**Mean shell thickness** 0.0000 (ft)**Maximum beam** 4.243 (ft)**Appendage coefficient** 1.0000**Design draught** 0.660 (ft)

Volume properties		Waterplane properties	
Moulded volume	39.580 (ft ³)	Length on waterline	16.658 (ft)
Total displaced volume	39.580 (ft ³)	Beam on waterline	7.025 (ft)
Displacement	1.131 (tons)	Entrance angle	23.450 (Degr.)
Block coefficient	0.5125	Waterplane area	124.17 (ft ²)
Prismatic coefficient	0.5616	Waterplane coefficient	1.0611
Vert. prismatic coefficient	0.4830	Waterplane center of floatation	8.747 (ft)
Wetted surface area	132.85 (ft ²)	Transverse moment of inertia	306.78 (ft ⁴)
Longitudinal center of buoyancy	9.077 (ft)	Longitudinal moment of inertia	2088.2 (ft ⁴)
Longitudinal center of buoyancy	-1.521 %		
Vertical center of buoyancy	0.445 (ft)		
Total length of submerged body	16.658 (ft)		
Total beam of submerged body	7.025 (ft)		

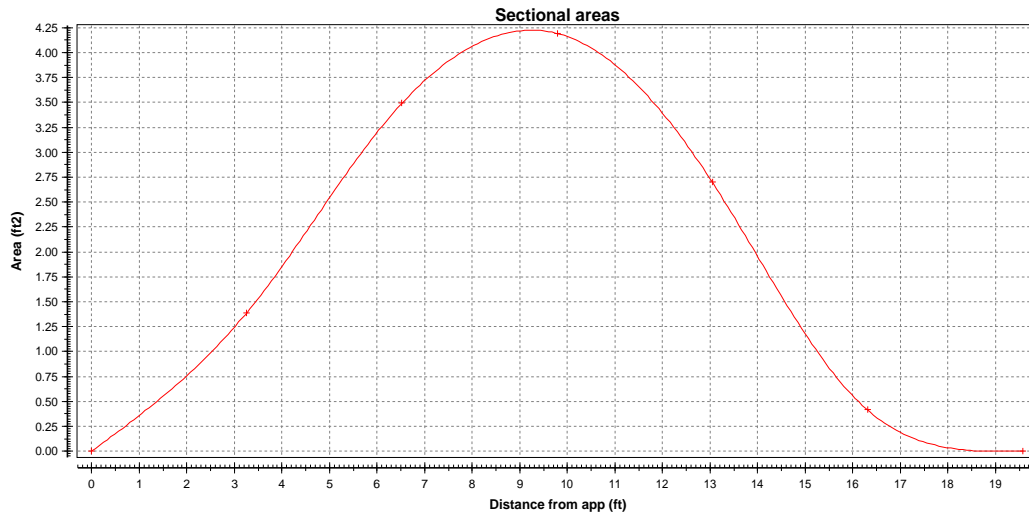
Midship properties		Initial stability	
Midship section area	4.231 (ft ²)	Transverse metacentric height	8.196 (ft)
Midship coefficient	0.9126	Longitudinal metacentric height	53.203 (ft)

Lateral plane	
Lateral area	6.544 (ft ²)
Longitudinal center of effort	9.078 (ft)
Vertical center of effort	0.397 (ft)

The following layer properties are calculated for both sides of the ship

Location	Area (ft ²)	Thickness	Weight (tons)	LCG (ft)	TCG (ft)	VCG (ft)
deck	116.13	0.170	0.039	13.484	0.000 (CL)	4.116
cabin	367.96	0.170	0.122	6.635	0.000 (CL)	3.461
hull	565.88	0.000	0.000	9.981	0.000 (CL)	1.744
Total	1050.0		0.161	8.278	0.000 (CL)	3.618

Sectional areas									
Location (ft)	Area (ft ²)	Location (ft)	Area (ft ²)	Location (ft)	Area (ft ²)	Location (ft)	Area (ft ²)	Location (ft)	Area (ft ²)
0.000	0.000	6.522	3.494	13.045	2.701	19.567	0.000		
3.261	1.391	9.783	4.194	16.306	0.414				



NOTE 1: Draught (and all other vertical heights) is measured above base $Z=$

NOTE 2: All calculated coefficients based on actual dimensions of submerged body.