

## Design hydrostatics report.

Designer

Created by

Comment

Filename

2013\_06\_23\_new\_model.fbm

Design length 21.326 (ft)

Midship location 9.600 (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 9.796 (ft)

Appendage coefficient 1.0000

Design draught 0.558 (ft)

Volume properties		Waterplane properties	
Moulded volume	38.541 (ft <sup>3</sup> )	Length on waterline	19.675 (ft)
Total displaced volume	38.541 (ft <sup>3</sup> )	Beam on waterline	8.523 (ft)
Displacement	1.101 (tons)	Entrance angle	54.653 (Degr.)
Block coefficient	0.4118	Waterplane area	125.11 (ft <sup>2</sup> )
Prismatic coefficient	0.5296	Waterplane coefficient	0.7454
Vert. prismatic coefficient	0.5524	Waterplane center of floatation	9.451 (ft)
Wetted surface area	126.89 (ft <sup>2</sup> )	Transverse moment of inertia	545.44 (ft <sup>4</sup> )
Longitudinal center of buoyancy	9.463 (ft)	Longitudinal moment of inertia	2853.2 (ft <sup>4</sup> )
Longitudinal center of buoyancy	-0.697 %		
Vertical center of buoyancy	0.362 (ft)		
Total length of submerged body	19.692 (ft)		
Total beam of submerged body	8.523 (ft)		

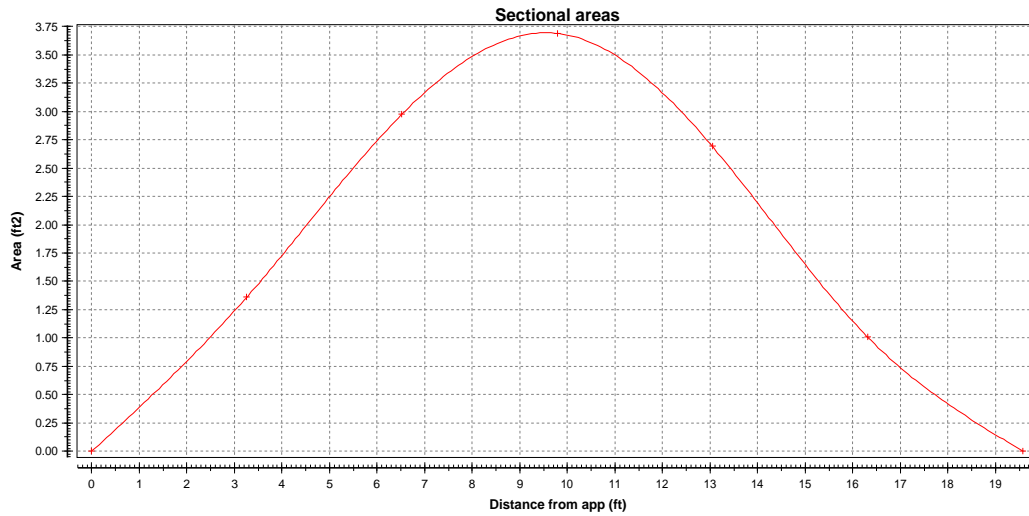
Midship properties		Initial stability	
Midship section area	3.696 (ft <sup>2</sup> )	Transverse metacentric height	14.514 (ft)
Midship coefficient	0.7775	Longitudinal metacentric height	74.391 (ft)

Lateral plane	
Lateral area	7.142 (ft <sup>2</sup> )
Longitudinal center of effort	9.600 (ft)
Vertical center of effort	0.339 (ft)

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

Location	Area (ft <sup>2</sup> )	Thickness	Weight (tons)	LCG (ft)	TCG (ft)	VCG (ft)
deck	58.076	0.170	0.019	13.483	0.000 (CL)	3.581
cabin	183.98	0.170	0.061	6.635	0.000 (CL)	2.903
hull	282.94	0.000	0.000	9.981	0.000 (CL)	1.126
<b>Total</b>	<b>525.00</b>		<b>0.080</b>	<b>8.278</b>	<b>0.000 (CL)</b>	<b>3.066</b>

Sectional areas									
Location (ft)	Area (ft <sup>2</sup> )	Location (ft)	Area (ft <sup>2</sup> )	Location (ft)	Area (ft <sup>2</sup> )	Location (ft)	Area (ft <sup>2</sup> )	Location (ft)	Area (ft <sup>2</sup> )
0.000	0.000	6.522	2.976	13.045	2.692	19.567	0.002		
3.261	1.361	9.783	3.690	16.306	1.011				



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.