AY-15

Hydrostatics & Stability Analysis

Sea Tech

Report Time: 26 февруари 2019 г., 17:59:11 ч.

Model Name: D:\MyWorks\Orca3D v1.3 and 1.4-WIP\Sea Tech-Models\AY-15\AY-15_SB-31012019.3dm

Condition Summary

Load Condition Parameters

Condition	Weight / Sinkage	LCG / Trim	TCG / Heel	VCG (m)
Condition 1	0,957 m	0,000 deg	0,000 deg	None available

Resulting Model Attitude and Hydrostatic Properties

Condition	Sinkage (m)	Trim(deg)	Heel(deg)	Ax(m^2)
Condition 1	0,957	0,000	0,000	2,26

Condition	Displacement Weight (tonne-f)	LCB(m)	TCB(m)	VCB(m)	Wet Area (m^2)
Condition 1	22,679	6,726	0,000	0,667	57,028

Condition	Awp(m^2)	LCF(m)	TCF(m)	VCF(m)
Condition 1	50,213	6,196	0,000	0,957

Condition	BMt(m)	BMl(m)	GMt(m)	GMl(m)
Condition 1	2,743	30,588	None Available	None Available

Condition	Cb	Cp	Cwp	Cx	Cws	Cvp
Condition 1	0,382	0,680	0,801	0,562	3,113	0,477

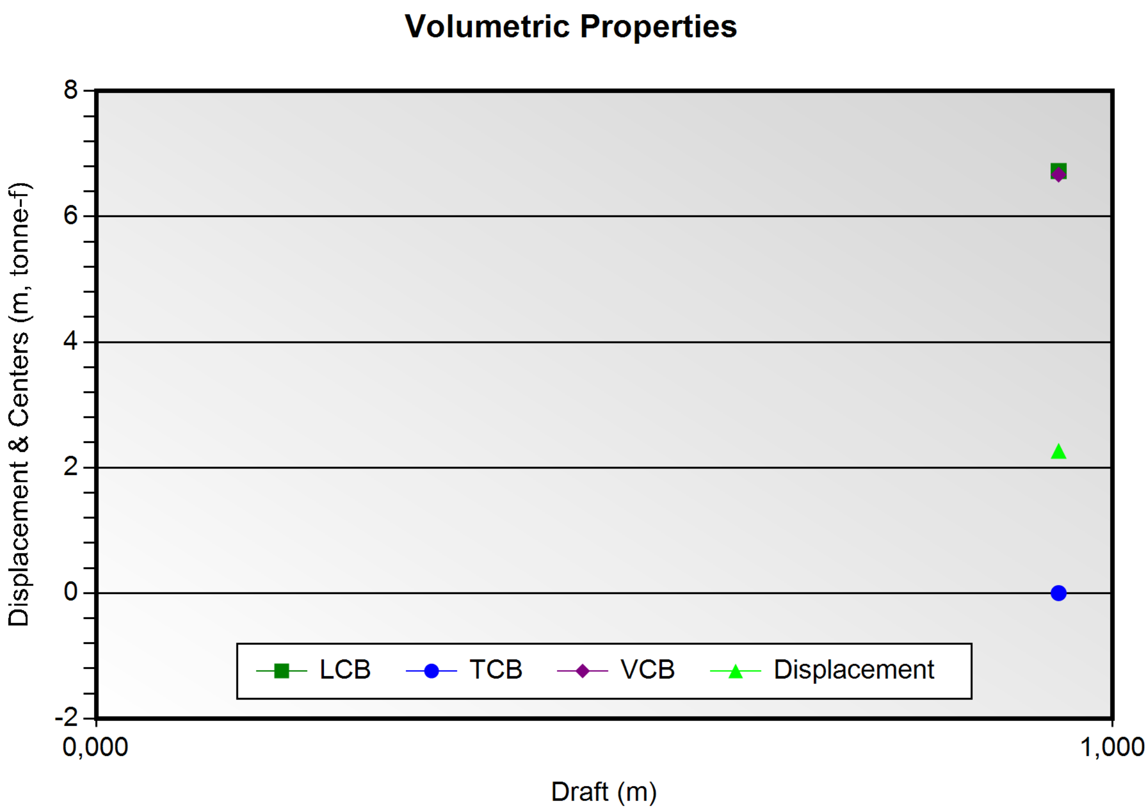
Notes

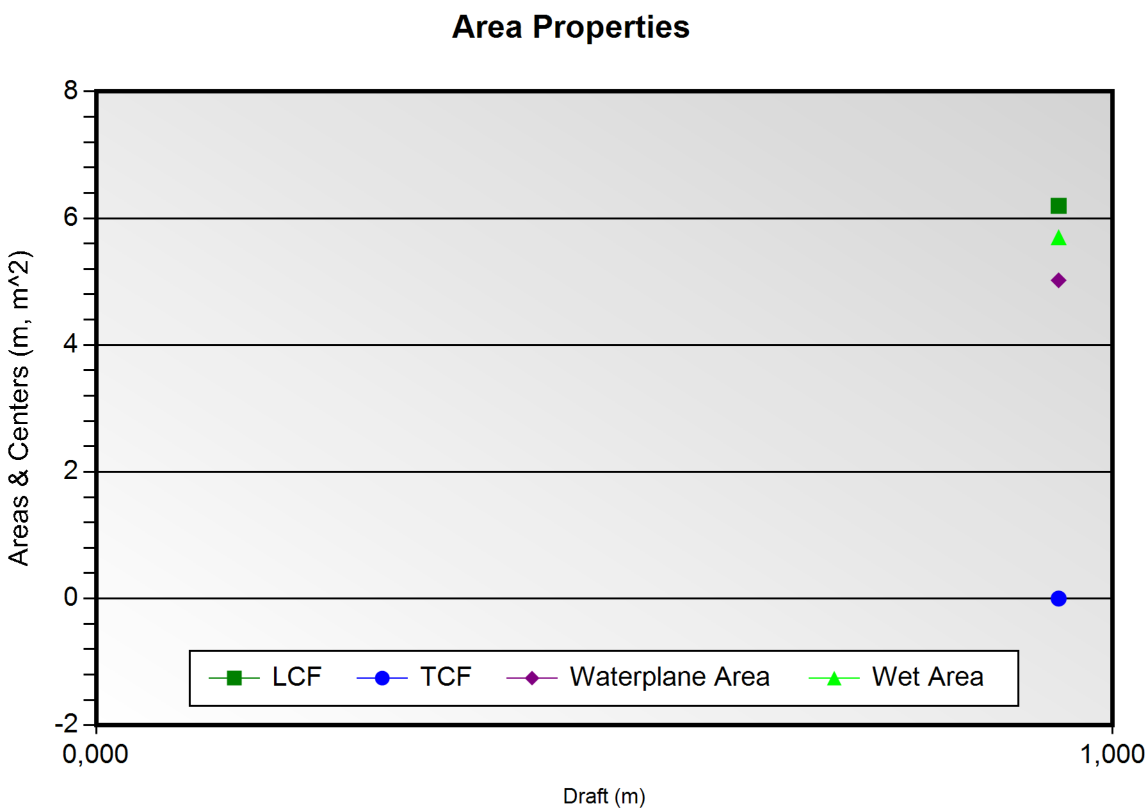
1. Locations such as the center of buoyancy and center of flotation are measured from the origin in the Rhinoceros world coordinate system.

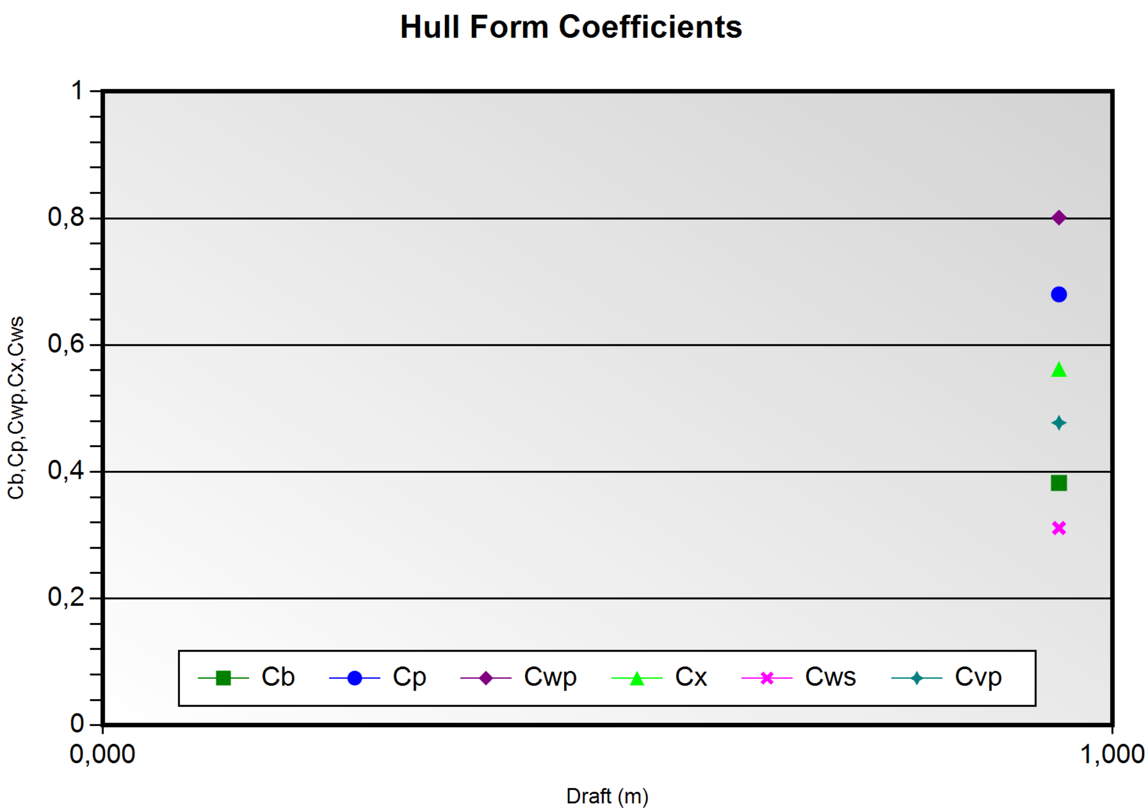
2. The orientation of the model for an Orca3D hydrostatics solution is defined in terms of “sinkage,” “trim,” and “heel.” The sinkage value represents the depth of the body origin (i.e. the Rhino world origin) below the resultant flotation plane, and is sometimes referred to as "origin depth." Heel and trim represent angular rotations about the Rhino longitudinal and transverse axes, respectively, and are taken in that order. For a more detailed description of these terms see the Orca3D documentation.

3. Hull form coefficients are non-dimensionalized by the waterline length.

4. Calculation of Cp and Cx use Orca sections to determine Ax. If no Orca sections are defined, these values will be reported as zero.


Volumetric Properties
8
6
4
2
0
-2
Displacement & Centers (m, tonne-f)
LCB
TCB
VCB
Displacement
0,000
1,000
Draft (m)


Area Properties
8
6
4
2
0
-2
Areas & Centers (m, m^2)
0,000
1,000
Draft (m)
LCF
TCF
Waterplane Area
Wet Area


Hull Form Coefficients
1
0,8
0,6
0,4
0,2
0
Cb,Cp,Cwp,Cx,Cws
Cb
Cp
Cwp
Cx
Cws
Cvp
0,000
1,000
Draft (m)

Object Type	Name	ID
surface	Unnamed Rhino Object	{7e4588ce-0c3c-4659-8bca-e326b5abf944}
surface	Unnamed Rhino Object	{7fc44c4c-bd5b-4057-a388-36ccae258310}
surface	Unnamed Rhino Object	{9a4af312-7cdb-4738-a01c-25d0a4e73b6f}
polysurface	Unnamed Rhino Object	{35872d5e-1fe7-48e9-9361-15b3cb7849ae}
surface	Unnamed Rhino Object	{0af21565-ecfc-4868-951d-315ef832b588}
surface	Unnamed Rhino Object	{2888be4f-e088-456c-a364-92bc33578f37}
surface	Unnamed Rhino Object	{2ca7d87f-d4f5-4daf-b89a-ec0f45aaa4fc}
surface	Unnamed Rhino Object	{8711c6d3-f6a4-425c-a90c-c7b589cd347c}
surface	Unnamed Rhino Object	{c032e182-2860-4bd1-baff-207d9cf92d00}
polysurface	Unnamed Rhino Object	{170f430d-b171-4255-b901-d5c532721c8e}
surface	Unnamed Rhino Object	{a84bbed1-26a4-4137-ac10-62abee53d5e9}
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surface	Unnamed Rhino Object	{026c31bc-d839-4b55-bab8-78484fb132f6}
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surface	Unnamed Rhino Object	{fed27801-9077-435d-8654-bb7d66c9218d}
surface	Unnamed Rhino Object	{f70c716b-f65e-48e8-b94b-d1a73e21f58f}
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surface	Unnamed Rhino Object	{773198ad-49f7-485d-b3f4-28109a80ba45}
surface	Unnamed Rhino Object	{1f58af6b-42fd-4b10-995e-78c7c335e50f}
surface	Unnamed Rhino Object	{808870f1-dd95-4e47-b99e-7c99c66b9a80}

polysurface	Unnamed Rhino Object	{85feba61-d2f7-4a9e-8a5f-67eeef0671bc}
polysurface	Unnamed Rhino Object	{185ba344-b692-4566-984b-16cbe34f3fe6}
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surface	Unnamed Rhino Object	{b173ef48-d930-409d-8d2f-9b8b347f7ed1}
surface	Unnamed Rhino Object	{9d3189e2-f854-41bc-8fbe-4d665c709194}

Condition Name=Condition 1,Model Sinkage=0,96,Model Trim=0,00,Model Heel=0,00

General Info

Analysis Type	FixedFlotationPlane	Up Direction = Positive_Z
		Fwd Direction = Positive_X

Surface Meshing Parameters

Density	1	Minimum edge length	0,0001	m
Maximum angle	0	Maximum edge length	0	m
Maximum aspect ratio	0	Max distance, edge to surf.	0	m
Minimum initial grid quads	0	Jagged seams	False	
Refine mesh	True	Simple planes	True	

Load Condition Parameters

Model Sinkage	0,957	m
Model Trim	0,000	deg
Model Heel	0,000	deg
VCG	None available	m
Fluid Type	Freshwater	
Fluid Density	999,000	kg/m^3
Mirror Geometry	True	

Resultant Model Attitude

Heel Angle	0,000	deg	Sinkage	0,957	m
Trim Angle	0,000	deg			

Overall Dimensions

Length Overall, LOA	15,195	m	Loa / Boa	2,980
Beam Overall, Boa	5,099	m	Boa / D	1,186
Depth Overall, D	4,300	m		

Waterline Dimensions

Waterline Length, Lwl	14,785	m	Lwl / Bwl	3,487
Waterline Beam, Bwl	4,240	m	Bwl / T	4,477
Navigational Draft, T	0,947	m	D / T	4,540

Volumetric Values

Displacement Weight	22,679	tonne-f	Displ-Length Ratio			195,576
Volume	22,702	m^3				
LCB	6,726	m	FB/Lwl	0,545	AB/Lwl	0,455
TCB	0,000	m	TCB / Bwl			0,000
VCB	0,667	m				
Wetted Surface Area	57,028	m^2				
Moment To Trim	469,206	kgf-m/cm				

Waterplane Values

Waterplane Area, Awp	50,213	m^2				
LCF	6,196	m	FF/Lwl	0,581	AF/Lwl	0,419
TCF	0,000	m	TCF / Lwl			0,000
Weight To Immerse	0,502	tonne-f/cm				

Sectional Parameters

Ax	2,258	m^2		
Ax Location	7,384	m	Ax Location / Lwl	0,501

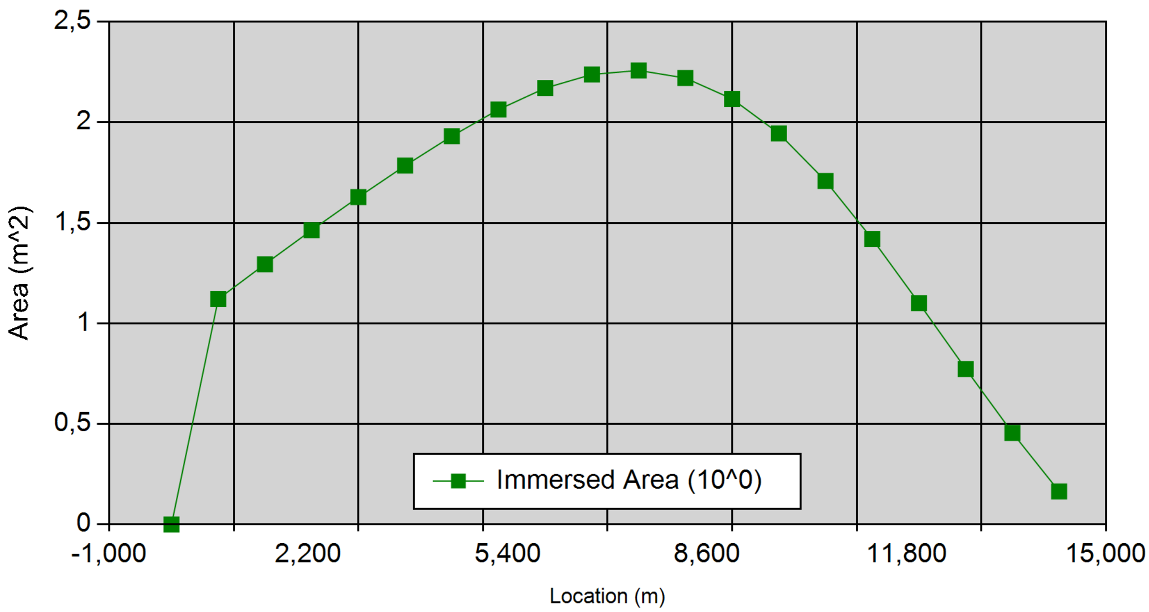
Hull Form Coefficients

Cb	0,382	Cx	0,562
Cp	0,680	Cwp	0,801
Cvp	0,477	Cws	3,113

Static Stability Parameters

I(transverse)	62,265	m^4	I(longitudinal)	694,402	m^4
BMt	2,743	m	BMl	30,588	m
GMt	None Available	m	GMl	None Available	m
Mt	2,453	m	Ml	30,298	m

Station Data



Location (m)	Immersed Area (m^2)	Immersed Girth (m)
0,000	0,000	0,766
0,750	1,121	4,254
1,500	1,294	4,324
2,250	1,463	4,385
3,000	1,627	4,441
3,750	1,784	4,491
4,500	1,931	4,531
5,250	2,063	4,558
6,000	2,170	4,567
6,750	2,238	4,549
7,500	2,258	4,496
8,250	2,220	4,397
9,000	2,116	4,243
9,750	1,944	4,022
10,500	1,708	3,728
11,250	1,419	3,353
12,000	1,101	2,901
12,750	0,773	2,382
13,500	0,456	1,792
14,250	0,164	1,117