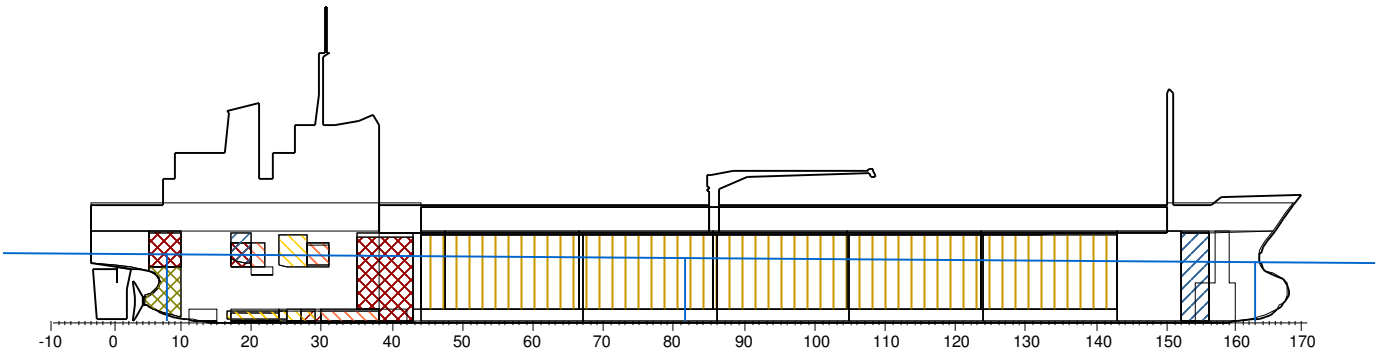
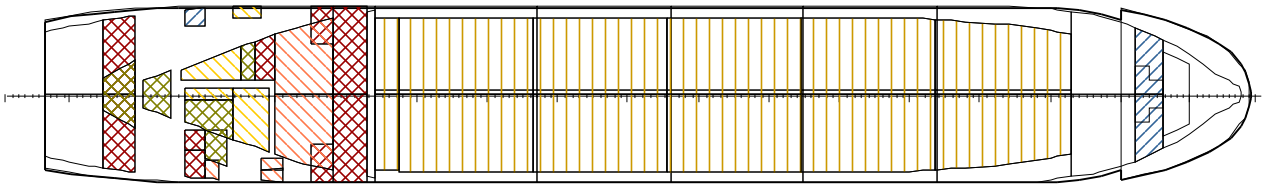
03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.022	37900.1	0.000	0.1	4.540	24502.4	3370.25
Fuel	376.57	-33.493	-12612.3	0.148	55.8	4.644	1748.9	390.72
Diesel	62.55	-31.790	-1988.5	1.107	69.3	1.472	92.1	200.57
Lub. Oil	31.74	-37.312	-1184.4	-0.802	-25.5	1.339	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.843	-1017.1	0.115	2.5	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
DeadWeight	6046.65	4.358	26351.5	0.000	0.9	4.498	27195.8	4083.00

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.768	m
DRAFT CORRESPONDING	Tcf	6.016	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.586	m	METACENTRIC HEIGHT	GM	1.854	m
DRAFT A.P.	Tap	6.413	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.000	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.827	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.379	m
LONG. CENTER BUOYANCY	LCB	1.467	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.146	m +fwdMS	PROPELLER IMMERSION	P.I	116.3	%
MOMENT TO CHANGE TRIM	MCT	123.55	MT m / cm	AHEAD VISIBILITY	A.V	112.2	m
TONS PER CENTIMETRE	TPC	16.12	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Ship Limitation Criteria						
1	Mean Draft (extreme)	6.014	m	max	6.014	S - Summer draught	PASS
2	Propeller Immersion	116.3	%	min	50.0		PASS
3	Ahead Visibility	112.2	m	max	224.2		PASS
4	min Draft fwd	5.586	m	min	3.600		PASS
	Long. Strength Criteria						
5	Shear Force Percentage	25.1	%	max	100.0	SEAGOING LIMITS	PASS
6	Bending Moment Percentage	18.3	%	max	100.0	SEAGOING LIMITS	PASS
	General Stability Criteria						
7	Flooding Angle	44.76	deg	min	30.00		PASS
8	GZ AREA (0.00-30.00)	0.190	m rad	min	0.055		PASS
9	GZ AREA (0.00-40.00)	0.306	m rad	min	0.090		PASS
10	GZ AREA (30.00-40.00)	0.117	m rad	min	0.030		PASS
11	GZ at 30 deg	0.628	m	min	0.200		PASS
12	GZmax	0.687	m	min	0.200		PASS
13	Angle of GZmax	39.100	deg	min	25.000		PASS
14	GMcor	1.379	m	min	0.150		PASS
	Severe Wind Criteria						
15	Heel Under Steady Wind	0.87	m	max	10.22		PASS
16	Wind Restoring Energy	0.338	m rad	min	0.109		PASS
	Damage Stability Criteria						
17	Angle of List (damaged)	4.16	deg	max	25.00	Case 3, Stage 5	PASS
18	Margin of Protected Opening	2.003	m	min	0.000	Case 3, Stage 5 (BWT5_S-A)	PASS
19	Margin of Unprotected Opening	5.011	m	min	0.000	Case 2, Stage 5 (DFLD 2S)	PASS
20	Range of Stability	36.64	deg	min	20.00	Case 2, Stage 5	PASS
21	GZmax (20 deg range)	0.297	m	min	0.100	Case 2, Stage 4	PASS
22	GZ Area (20 deg range)	0.0550	m rad	min	0.0175	Case 2, Stage 3	PASS

GENERAL STATEMENT: Condition FULFILLS all the above assessed criteria

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	MOMENT MT m
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.093	-3.175	4.568	266.81
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.093	3.175	4.568	266.81
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	-3.461	4.533	338.24
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	3.461	4.533	338.24
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	-3.463	4.534	339.58
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	3.463	4.534	339.58
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.864	-3.463	4.534	339.58
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.864	3.463	4.534	339.58
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	-3.463	4.534	339.58
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	3.463	4.534	339.58
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.443	4.535	61.34
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.443	4.535	61.34
	Cargo Total			5397.08	7.022	0.000	4.540	3370.25

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

03 - Cargo Oil Full Loading Departure p=0.922(Homo)

No	Fuel	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
28	H.O.Day.T.	96.0	0.960 MT/m3 Fuel Oil	7.56	-41.226	4.225	6.156	1.16	15.0	1.0000
29	H.O.Sett.T.	96.0	0.960 MT/m3 Fuel Oil	7.01	-41.132	6.219	6.352	2.52	15.0	1.0000
30	No.1 H.O.T.(P)	96.0	0.960 MT/m3 Fuel Oil	130.73	-27.746	-5.777	3.877	103.20	15.0	1.0000
31	No.1 H.O.T.(S)	96.0	0.960 MT/m3 Fuel Oil	130.73	-27.746	5.777	3.877	103.20	15.0	1.0000
32	No.2 H.O.T.(P)	96.0	0.960 MT/m3 Fuel Oil	47.07	-48.189	-2.912	6.805	83.96	15.0	1.0000
33	No.2 H.O.T.(S)	96.0	0.960 MT/m3 Fuel Oil	47.07	-48.189	2.912	6.805	83.96	15.0	1.0000
34	FO OVERFLOW TK	96.0	0.960 MT/m3 Fuel Oil	6.41	-34.626	-3.088	0.577	12.72	15.0	1.0000
	Fuel Total			376.57	-33.493	0.148	4.644	390.72		

No	Diesel	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
35	No.1 D.O.Day.T.	96.0	0.840 MT/m3 Diesel Oil	3.73	-34.076	6.400	6.156	0.18	15.0	1.0000
36	No.2 D.O.Day.T.	96.0	0.840 MT/m3 Diesel Oil	3.37	-34.020	7.471	6.233	0.20	15.0	1.0000
37	D.O.Sett.T.	96.0	0.840 MT/m3 Diesel Oil	2.98	-39.545	6.799	6.354	0.61	15.0	1.0000
38	D.O.T.(P)	96.0	0.840 MT/m3 Diesel Oil	26.24	-31.045	-2.935	0.557	99.78	15.0	1.0000
39	D.O.T.(S)	96.0	0.840 MT/m3 Diesel Oil	26.24	-31.045	2.935	0.557	99.78	15.0	1.0000
	Diesel Total			62.55	-31.790	1.107	1.472	200.57		

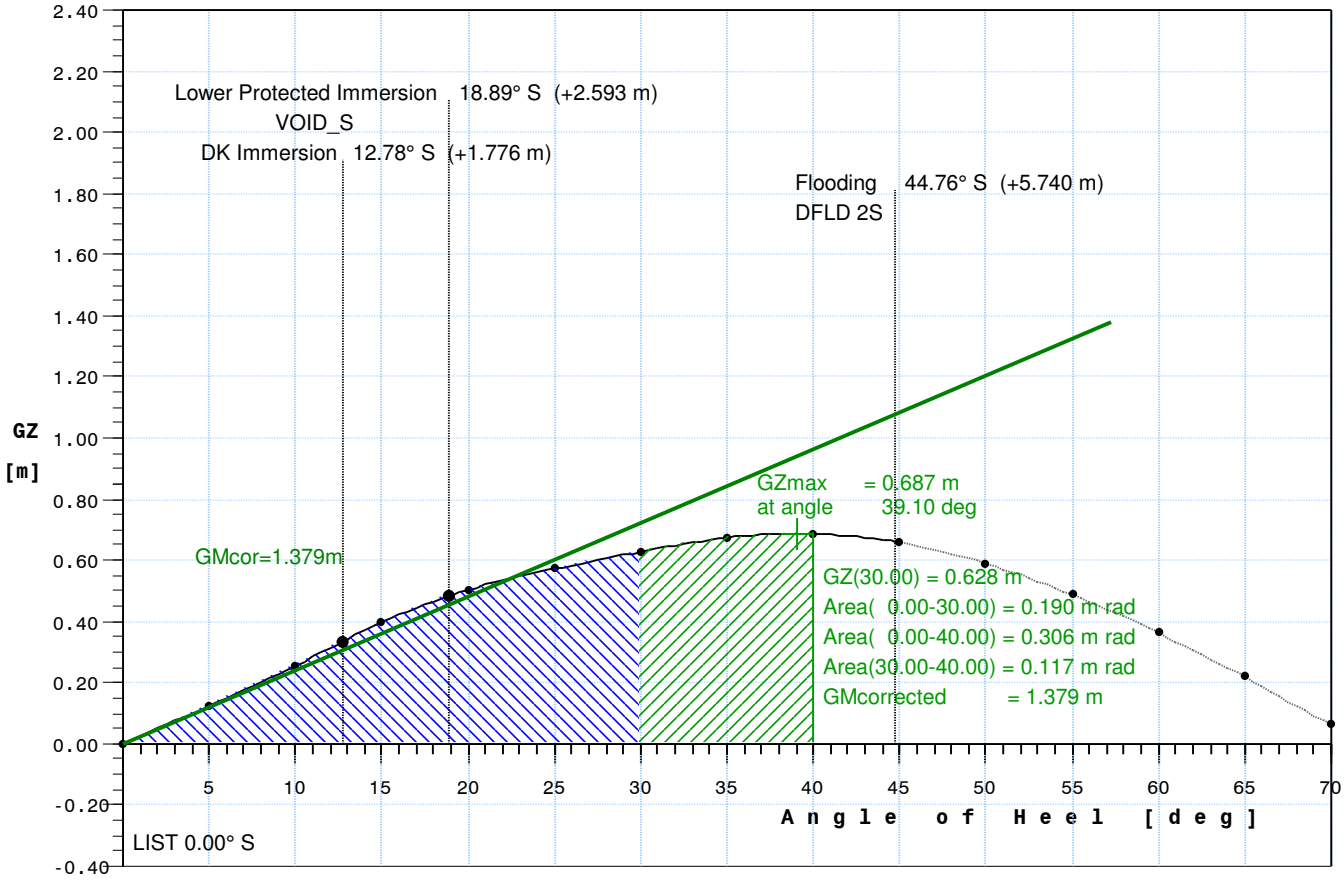
No	Lub. Oil	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
40	L.O.C.T.	96.0	0.920 MT/m3 Lub Oil	4.18	-39.940	0.000	0.432	0.57
41	L.O.S.T.	96.0	0.920 MT/m3 Lub Oil	14.56	-35.926	1.808	0.561	40.06
42	A.E. L.O.S.T.	96.0	0.920 MT/m3 Lub Oil	4.30	-36.286	-7.410	6.316	0.29
43	Thermal Oil T.	94.1	0.920 MT/m3 Lub Oil	8.70	-38.879	-2.291	0.617	8.39
	Lub. Oil Total			31.74	-37.312	-0.802	1.339	49.30

No	Fr. Water	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
44	Fresh W.E.	100.0	1.000 MT/m3 Fresh Water	5.68	-41.066	6.939	6.936	0.67
45	F.W.T.(P)	100.0	1.000 MT/m3 Fresh Water	68.32	46.675	-2.646	3.924	19.78
46	F.W.T.(S)	100.0	1.000 MT/m3 Fresh Water	65.50	46.702	2.722	4.015	18.22
	Fr. Water Total			139.50	43.115	0.265	4.089	38.67

No	Miscel	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
47	C.W.T.	100.0	1.000 MT/m3 Misc.	19.34	-47.685	0.000	3.217	0.00
48	Bilge.T.	10.0	1.000 MT/m3 Misc.	0.58	-44.471	0.000	0.142	8.48
49	Residual.O.T.	10.0	1.000 MT/m3 Misc.	0.41	-39.133	4.585	4.349	7.58
50	Sludge.O.T.	10.0	1.000 MT/m3 Misc.	0.38	-36.304	-2.205	0.092	4.43
51	L.O.Sludge.O.T.	9.2	1.000 MT/m3 Misc.	1.00	-39.110	1.461	0.095	13.00
	Miscel Total			21.71	-46.843	0.115	2.957	33.49

No	Constants	WEIGHT MT	Length m	Width m	Height m	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL
57	Crew	3.00	10.40	16.20	9.40	-33.750	-7.900	13.000
58	Spare	11.00	6.50	16.20	2.20	-43.750	-7.900	9.400
59	Food	3.50	8.40	16.20	2.16	-50.950	-7.900	9.380
60	Ice							
61	Other							
	Constants Total	17.50				-43.476	-7.900	10.013

03 - Cargo Oil Full Loading Departure p=0.922(Homo)



RIGHTING ARM vs HEEL ANGLE and OPENINGS

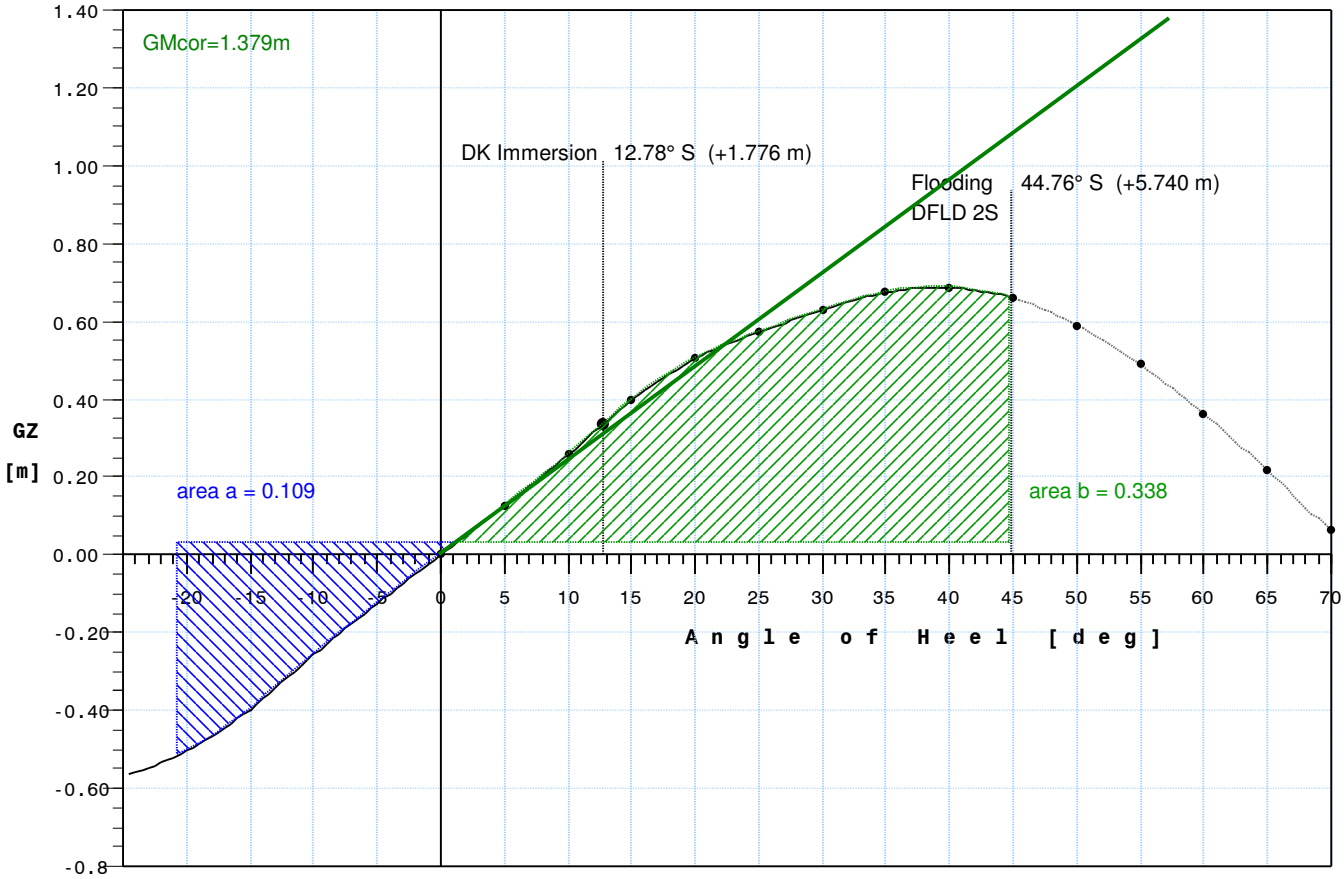
Heel deg	Cross KN [m]	Righting. Arm m	A r e a m rad	Protected margin m	Flooding margin m
0.00	0.000	0.000	0.000	2.593	5.740
5.00	0.595	0.125	0.005	1.908	5.228
10.00	1.192	0.256	0.022	1.225	4.695
12.78	1.523	0.336	0.036	0.848	4.392
15.00	1.792	0.397	0.051	0.545	4.142
18.89	2.221	0.484	0.081	0.000	3.679
20.00	2.347	0.504	0.090	-0.156	3.543
25.00	2.850	0.572	0.137	-0.876	2.905
30.00	3.323	0.628	0.190	-1.603	2.238
35.00	3.765	0.674	0.247	-2.349	1.523
40.00	4.150	0.686	0.306	-3.113	0.758
44.76	4.454	0.661	0.363	-3.842	0.000
45.00	4.470	0.659	0.365	-3.877	-0.038
50.00	4.718	0.589	0.420	-4.620	-0.841
55.00	4.903	0.488	0.467	-5.332	-1.643
60.00	5.030	0.362	0.505	-6.008	-2.437
65.00	5.104	0.220	0.530	-6.641	-3.215
70.00	5.129	0.065	0.542	-7.227	-3.972

KN calculated for assumed KG = 0.000 m abv BL

G E N E R A L S T A B I L I T Y C R I T E R I A

CRITERION	ACTUAL	UNIT	REGULATION	STATUS
Area under GZ(0.0°-30.0°)	0.190	m rad	min 0.055	PASS
Area under GZ(0.0°-40.0°)	0.306	m rad	min 0.090	PASS
Area under GZ(30.0°-40.0°)	0.117	m rad	min 0.030	PASS
GZ maximum	0.687	m	min 0.200	PASS
GZ maximum at angle greater	39.10	deg	min 25.00	PASS
Metacentric Height GMcor	1.379	m	min 0.150	PASS

03 - Cargo Oil Full Loading Departure p=0.922(Homo)



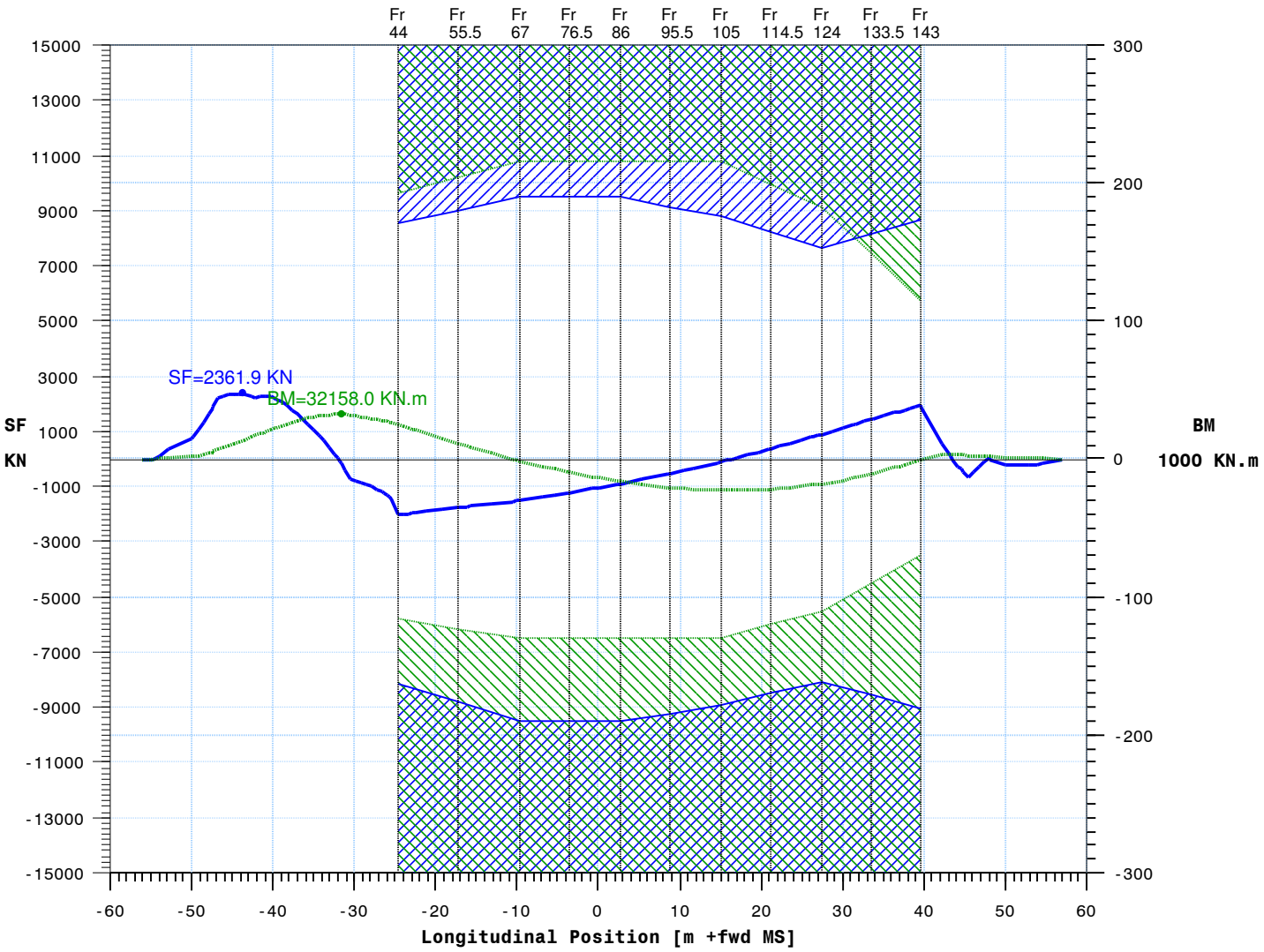
HEEL RESULTING FROM STEADY WIND PRESSURE **ROLL ANGLE DUE TO WAVE ACTION**

Mean Draft (moulded)	Tms	6.000	m	Water Line Length	Lwl	105.500	m
Projected Area (Hull)	Ah	514.5	m2	Block Coefficient	Cb	0.818	
Vertical Arm (Hull)	Zh	9.823	m	Factor k (Ak=26.9 m2)	k	0.940	
Projected Area (Cargo)	Ac	0.0	m2	Factor X1	X1	0.950	
Vertical Arm (Cargo)	Zc	0.000	m	Factor X2	X2	1.000	
Projected Lateral Area	A	514.5	m2	Factor r	r	0.669	
Vertical distance Z	Z	6.823	m	Factor s	s	0.074	
Steady Wind Pressure	P	504.0	N/m2	Metacentric Height	GMc	1.379	m
Displacement	D	8597.7	MT	Rolling period	T	10.754	sec
Wind Heeling Lever lw1	lw1	0.021	m	Angle of Roll	a1	21.61	deg
Angle of Heel due to lw1	a0	0.866	deg	Deck Edge Immersion angle		12.78	deg
HEEL FROM GUSTING WIND				EXTREME RIGHTING ANGLE			
Wind Heeling Lever lw2	lw2	0.031	m	Flooding angle	af	44.76	
Angle of Heel due to lw2	alw2	1.291	deg	2nd angle	a2	44.76	deg

S E V E R E W I N D & R O L L I N G J U D G E M E N T

CRITERION	ACTUAL	UNIT	REGULATION	STATUS
Heel under steady wind	0.866	deg	max 10.22	PASS
Capsizing Energy (area a)	0.109	m rad	max 0.338	PASS

03 - Cargo Oil Full Loading Departure p=0.922(Homo)



S H E A R F O R C E S

Frame No.	Position m+fwdMS	Sh.Force kN	Limit kN	Perc. %
44.00	-24.650	-2038.7	-8137.0	25.1
55.50	-17.175	-1771.4	-8818.5	20.1
67.00	-9.700	-1511.8	-9500.0	15.9
76.50	-3.525	-1215.7	-9500.0	12.8
86.00	2.650	-905.3	-9500.0	9.5
95.50	8.825	-513.6	-9220.0	5.6
105.00	15.000	-107.3	-8940.0	1.2
114.50	21.175	382.7	8209.0	4.7
124.00	27.350	887.5	7642.0	11.6
133.50	33.525	1434.0	8162.0	17.6
143.00	39.700	1902.8	8682.0	21.9

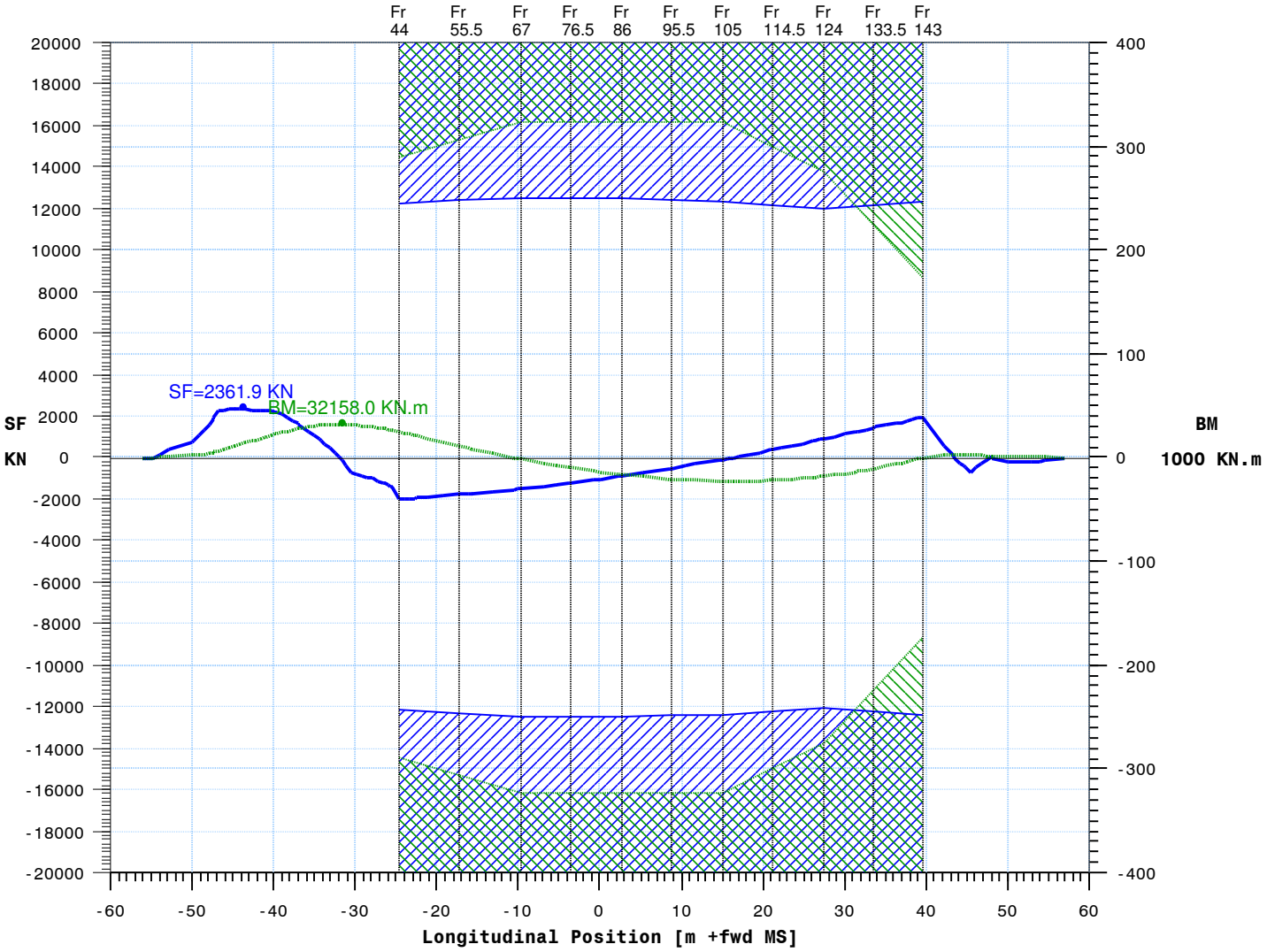
B E N D I N G M O M E N T S

Frame No.	Position m+fwdMS	B.Moment kN m	Limit kN m	Perc. %
44.0	-24.650	25086.2	191951.0	13.1
55.5	-17.175	10853.8	203476.0	5.3
67.0	-9.700	-1432.9	-130000.0	1.1
76.5	-3.525	-9861.6	-130000.0	7.6
86.0	2.650	-16427.5	-130000.0	12.6
95.5	8.825	-20817.0	-130000.0	16.0
105.0	15.000	-22757.2	-130000.0	17.5
114.5	21.175	-21910.6	-120104.0	18.2
124.0	27.350	-17990.8	-110208.0	16.3
133.5	33.525	-10815.5	-89736.5	12.1
143.0	39.700	-385.4	-69265.0	0.6

LONGITUDINAL STRENGTH CRITERIA

DESCRIPTION	ACT.VALUE	UNIT	PER.LIMIT	PERCENT	POSITION	FRAME.No	STATUS
Cr. Shearing Force	-2038.7	kN	-8137.0	25.1	-24.650	44.0	PASS - SEAGOING LIMITS
Cr. Bending Moment	-22426.9	kN m	-122708.0	18.3	19.550	112.0	PASS - SEAGOING LIMITS
MAX Shearing Force	2361.9	kN			-44.150	14.0	
MIN Shearing Force	-2038.7	kN			-24.650	44.0	
HOG Bending Moment	32158.0	kN m			-31.991	32.7	
SAG Bending Moment	-22829.7	kN m			16.355	107.1	

03 - Cargo Oil Full Loading Departure p=0.922(Homo)



S H E A R F O R C E S

Frame No.	Position m+fwdMS	Sh.Force kN	Limit kN	Perc. %
44.00	-24.650	-2038.7	-12126.0	16.8
55.50	-17.175	-1771.4	-12330.5	14.4
67.00	-9.700	-1511.8	-12535.0	12.1
76.50	-3.525	-1215.7	-12535.0	9.7
86.00	2.650	-905.3	-12535.0	7.2
95.50	8.825	-513.6	-12451.0	4.1
105.00	15.000	-107.3	-12367.0	0.9
114.50	21.175	382.7	12147.0	3.2
124.00	27.350	887.5	11977.0	7.4
133.50	33.525	1434.0	12133.0	11.8
143.00	39.700	1902.8	12289.0	15.5

B E N D I N G M O M E N T S

Frame No.	Position m+fwdMS	B.Moment kN m	Limit kN m	Perc. %
44.0	-24.650	25086.2	289265.0	8.7
55.5	-17.175	10853.8	306633.0	3.5
67.0	-9.700	-1432.9	-324000.0	0.4
76.5	-3.525	-9861.6	-324000.0	3.0
86.0	2.650	-16427.5	-324000.0	5.1
95.5	8.825	-20817.0	-324000.0	6.4
105.0	15.000	-22757.2	-324000.0	7.0
114.5	21.175	-21910.6	-299337.0	7.3
124.0	27.350	-17990.8	-274673.0	6.5
133.5	33.525	-10815.5	-223651.0	4.8
143.0	39.700	-385.4	-172629.0	0.2

LONGITUDINAL STRENGTH CRITERIA

DESCRIPTION	ACT.VALUE	UNIT	PER.LIMIT	PERCENT	POSITION	FRAME.No	STATUS
Cr. Shearing Force	-2038.7	kN	-12126.0	16.8	-24.650	44.0	PASS - HARBOUR LIMITS
Cr. Bending Moment	25086.2	kN m	289265.0	8.7	-24.650	44.0	PASS - HARBOUR LIMITS
MAX Shearing Force	2361.9	kN			-44.150	14.0	
MIN Shearing Force	-2038.7	kN			-24.650	44.0	
HOG Bending Moment	32158.0	kN m			-31.991	32.7	
SAG Bending Moment	-22829.7	kN m			16.355	107.1	

03 - Cargo Oil Full Loading Departure p=0.922(Homo)

DAMAGE STABILITY ASSESSMENT FOR INTERMEDIATE STAGES

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
	INITIAL CONDITION	8597.7	0.0	0.0	6.000	0.827A	0.00°S	12.78°S	VOID_S	2.593	DFLD 2S	5.740	44.76	44.76	0.504	0.0902	PASS

DAMAGE STABILITY ASSESSMENT - 1/5 Intermediate Stage (20.0 % of Flooding) with Added Weight Method

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
1	27,47,33,57	8594.0	13.3	9.6	5.998	0.814A	0.06°P	12.82°P	VOID_P	2.589	DFLD 2P	5.740	44.81	44.70	0.496	0.0887	PASS
2	56,25,10,31,55,12	8672.1	150.9	225.3	6.043	0.953A	0.32°S	12.22°S	BWT6_P-A	2.570	DFLD 2S	5.625	44.12	43.80	0.364	0.0643	PASS
3	56,25,31	8641.0	26.1	69.5	6.025	0.880A	0.53°S	12.49°S	BWT5_S-A	2.615	DFLD 2S	5.645	44.44	43.91	0.399	0.0709	PASS
4	23,8	8610.7	105.4	118.5	6.008	0.829A	0.19°S	12.72°S	VOID_S	2.559	DFLD 2S	5.713	44.70	44.51	0.467	0.0829	PASS
5	23	8633.4	0.0	35.7	6.021	0.831A	0.46°S	12.61°S	VOID_S	2.507	DFLD 2S	5.671	44.57	44.11	0.466	0.0832	PASS
6	21,6	8608.7	105.4	116.4	6.007	0.818A	0.16°S	12.75°S	VOID_S	2.566	DFLD 2S	5.720	44.73	44.57	0.467	0.0829	PASS
7	21	8633.1	0.0	35.5	6.022	0.796A	0.46°S	12.68°S	VOID_S	2.515	DFLD 2S	5.681	44.66	44.20	0.465	0.0831	PASS
8	19,4	8606.9	105.3	114.5	6.006	0.810A	0.14°S	12.77°S	VOID_S	2.572	DFLD 2S	5.726	44.76	44.62	0.468	0.0830	PASS
9	19	8633.1	0.0	35.4	6.023	0.760A	0.45°S	12.74°S	VOID_S	2.523	DFLD 2S	5.692	44.73	44.27	0.464	0.0830	PASS
10	17,2	8606.4	98.9	107.6	6.005	0.803A	0.09°S	12.78°S	VOID_S	2.581	DFLD 2S	5.734	44.76	44.68	0.475	0.0846	PASS
11	17	8633.9	0.0	36.2	6.024	0.723A	0.39°S	12.81°S	VOID_S	2.539	DFLD 2S	5.709	44.80	44.37	0.470	0.0844	PASS
12	15,54,52,46	8638.6	13.1	54.1	6.028	0.678A	0.31°S	12.87°S	VOID_S	2.557	DFLD 2S	5.728	44.88	44.45	0.487	0.0879	PASS
13	15,46	8632.6	13.1	48.0	6.024	0.702A	0.30°S	12.85°S	VOID_S	2.558	DFLD 2S	5.726	44.86	44.47	0.489	0.0881	PASS
14	53,52,13	8622.3	0.0	24.6	6.017	0.720A	0.00°S	12.87°S	VOID_S	2.601	DFLD 2S	5.757	44.87	44.76	0.493	0.0887	PASS
15	53,13	8622.3	0.0	24.6	6.017	0.720A	0.00°S	12.87°S	VOID_S	2.601	DFLD 2S	5.757	44.87	44.76	0.493	0.0887	PASS
16	26,47,32,57	8594.0	13.3	9.6	5.998	0.814A	0.07°S	12.82°S	VOID_S	2.589	DFLD 2S	5.739	44.81	44.70	0.496	0.0887	PASS
17	56,24,9,30,55,11	8669.8	150.9	223.0	6.041	0.950A	0.32°P	12.23°P	BWT6_S-A	2.572	DFLD 2P	5.627	44.14	43.82	0.371	0.0658	PASS
18	56,24,30	8639.1	26.1	67.5	6.024	0.877A	0.53°P	12.50°P	BWT5_P-A	2.616	DFLD 2P	5.646	44.45	43.92	0.406	0.0724	PASS
19	22,7	8609.1	105.4	116.8	6.007	0.829A	0.20°P	12.73°P	VOID_P	2.559	DFLD 2P	5.713	44.71	44.51	0.473	0.0841	PASS
20	22	8631.8	0.0	34.1	6.020	0.831A	0.47°P	12.62°P	VOID_P	2.507	DFLD 2P	5.671	44.58	44.11	0.472	0.0844	PASS
21	20,5	8607.0	105.4	114.8	6.005	0.819A	0.17°P	12.75°P	VOID_P	2.566	DFLD 2P	5.720	44.74	44.57	0.473	0.0841	PASS
22	20	8631.6	0.0	33.9	6.021	0.797A	0.47°P	12.68°P	VOID_P	2.515	DFLD 2P	5.681	44.66	44.19	0.471	0.0843	PASS
23	18,3	8605.1	105.3	112.8	6.004	0.813A	0.15°P	12.77°P	VOID_P	2.571	DFLD 2P	5.725	44.76	44.61	0.474	0.0842	PASS
24	18	8631.5	0.0	33.8	6.022	0.763A	0.46°P	12.74°P	VOID_P	2.522	DFLD 2P	5.692	44.73	44.27	0.470	0.0842	PASS
25	16,1	8604.5	98.9	105.8	6.004	0.808A	0.10°P	12.78°P	VOID_P	2.580	DFLD 2P	5.732	44.76	44.67	0.480	0.0856	PASS
26	16	8632.2	0.0	34.6	6.023	0.728A	0.41°P	12.80°P	VOID_P	2.537	DFLD 2P	5.707	44.80	44.36	0.475	0.0854	PASS
27	14,54,52,45	8638.6	13.7	54.6	6.028	0.678A	0.29°P	12.87°P	VOID_P	2.560	DFLD 2P	5.730	44.88	44.48	0.488	0.0880	PASS
28	14,45	8632.6	13.7	48.6	6.024	0.702A	0.29°P	12.85°P	VOID_P	2.558	DFLD 2P	5.727	44.86	44.47	0.489	0.0882	PASS

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DAMAGE STABILITY ASSESSMENT FOR INTERMEDIATE STAGES

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
	INITIAL CONDITION	8597.7	0.0	0.0	6.000	0.827A	0.00°S	12.78°S	VOID_S	2.593	DFLD 2S	5.740	44.76	44.76	0.504	0.0902	PASS

DAMAGE STABILITY ASSESSMENT - 2/5 Intermediate Stage (40.0 % of Flooding) with Added Weight Method

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
1	27,47,33,57	8590.3	26.6	19.2	5.995	0.801A	0.13°P	12.86°P	VOID_P	2.585	DFLD 2P	5.739	44.86	44.63	0.495	0.0885	PASS
2	56,25,10,31,55,12	8746.6	301.7	450.7	6.086	1.075A	0.69°S	11.65°S	BWT5_S-A	2.516	DFLD 2S	5.506	43.48	42.79	0.325	0.0583	PASS
3	56,25,31	8684.4	52.3	139.1	6.051	0.930A	1.10°S	12.20°S	BWT5_S-A	2.508	DFLD 2S	5.545	44.10	43.01	0.359	0.0640	PASS
4	23,8	8623.8	210.8	236.9	6.016	0.830A	0.41°S	12.66°S	VOID_S	2.521	DFLD 2S	5.682	44.63	44.22	0.461	0.0823	PASS
5	23	8669.1	0.0	71.4	6.043	0.834A	0.93°S	12.44°S	VOID_S	2.419	DFLD 2S	5.600	44.39	43.45	0.455	0.0818	PASS
6	21,6	8619.7	210.8	232.9	6.014	0.807A	0.36°S	12.72°S	VOID_S	2.535	DFLD 2S	5.697	44.70	44.34	0.462	0.0823	PASS
7	21	8668.6	0.0	71.0	6.045	0.764A	0.93°S	12.57°S	VOID_S	2.435	DFLD 2S	5.621	44.55	43.62	0.453	0.0815	PASS
8	19,4	8616.1	210.6	229.1	6.012	0.792A	0.31°S	12.76°S	VOID_S	2.547	DFLD 2S	5.708	44.75	44.44	0.462	0.0825	PASS
9	19	8668.5	0.0	70.8	6.046	0.693A	0.93°S	12.70°S	VOID_S	2.451	DFLD 2S	5.643	44.70	43.78	0.451	0.0813	PASS
10	17,2	8615.2	197.8	215.3	6.011	0.777A	0.20°S	12.79°S	VOID_S	2.565	DFLD 2S	5.724	44.78	44.56	0.472	0.0846	PASS
11	17	8670.1	0.0	72.4	6.048	0.619A	0.82°S	12.83°S	VOID_S	2.481	DFLD 2S	5.675	44.85	43.95	0.458	0.0830	PASS
12	15,54,52,46	8679.6	26.2	108.1	6.056	0.529A	0.66°S	12.95°S	VOID_S	2.517	DFLD 2S	5.712	45.00	44.11	0.478	0.0869	PASS
13	15,46	8667.5	26.2	96.1	6.048	0.577A	0.64°S	12.92°S	VOID_S	2.517	DFLD 2S	5.708	44.95	44.13	0.481	0.0873	PASS
14	53,52,13	8646.9	0.0	49.3	6.034	0.613A	0.00°S	12.95°S	VOID_S	2.609	DFLD 2S	5.773	44.98	44.76	0.489	0.0885	PASS
15	53,13	8646.9	0.0	49.3	6.034	0.613A	0.00°S	12.95°S	VOID_S	2.609	DFLD 2S	5.773	44.98	44.76	0.489	0.0885	PASS
16	26,47,32,57	8590.3	26.6	19.2	5.995	0.801A	0.14°S	12.86°S	VOID_S	2.585	DFLD 2S	5.739	44.86	44.63	0.495	0.0885	PASS
17	56,24,9,30,55,11	8741.9	301.7	445.9	6.083	1.069A	0.69°P	11.69°P	BWT5_P-A	2.519	DFLD 2P	5.510	43.51	42.82	0.333	0.0600	PASS
18	56,24,30	8680.5	52.3	135.1	6.048	0.925A	1.11°P	12.23°P	BWT5_P-A	2.510	DFLD 2P	5.548	44.13	43.03	0.367	0.0657	PASS
19	22,7	8620.5	210.8	233.6	6.014	0.829A	0.43°P	12.67°P	VOID_P	2.520	DFLD 2P	5.682	44.65	44.22	0.468	0.0836	PASS
20	22	8665.9	0.0	68.3	6.041	0.834A	0.96°P	12.46°P	VOID_P	2.418	DFLD 2P	5.600	44.40	43.44	0.462	0.0832	PASS
21	20,5	8616.3	210.8	229.5	6.011	0.810A	0.38°P	12.73°P	VOID_P	2.534	DFLD 2P	5.696	44.71	44.33	0.469	0.0837	PASS
22	20	8665.5	0.0	67.8	6.043	0.766A	0.95°P	12.58°P	VOID_P	2.434	DFLD 2P	5.620	44.56	43.60	0.460	0.0829	PASS
23	18,3	8612.6	210.6	225.6	6.009	0.798A	0.33°P	12.77°P	VOID_P	2.545	DFLD 2P	5.707	44.76	44.43	0.469	0.0838	PASS
24	18	8665.3	0.0	67.7	6.044	0.699A	0.95°P	12.71°P	VOID_P	2.449	DFLD 2P	5.641	44.70	43.75	0.458	0.0826	PASS
25	16,1	8611.4	197.8	211.6	6.009	0.788A	0.23°P	12.79°P	VOID_P	2.562	DFLD 2P	5.721	44.77	44.54	0.478	0.0858	PASS
26	16	8666.8	0.0	69.2	6.046	0.628A	0.85°P	12.83°P	VOID_P	2.477	DFLD 2P	5.671	44.85	43.92	0.464	0.0842	PASS
27	14,54,52,45	8679.6	27.3	109.2	6.056	0.529A	0.64°P	12.95°P	VOID_P	2.520	DFLD 2P	5.715	45.00	44.13	0.478	0.0870	PASS
28	14,45	8667.5	27.3	97.2	6.048	0.577A	0.63°P	12.92°P	VOID_P	2.518	DFLD 2P	5.708	44.95	44.13	0.481	0.0873	PASS

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DAMAGE STABILITY ASSESSMENT FOR INTERMEDIATE STAGES

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
	INITIAL CONDITION	8597.7	0.0	0.0	6.000	0.827A	0.00°S	12.78°S	VOID_S	2.593	DFLD 2S	5.740	44.76	44.76	0.504	0.0902	PASS

DAMAGE STABILITY ASSESSMENT - 3/5 Intermediate Stage (60.0 % of Flooding) with Added Weight Method

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
1	27,47,33,57	8586.7	39.8	28.8	5.993	0.788A	0.19°P	12.90°P	VOID_P	2.582	DFLD 2P	5.739	44.90	44.57	0.494	0.0884	PASS
2	56,25,10,31,55,12	8821.1	452.6	676.0	6.129	1.194A	1.09°S	11.10°S	BWT5_S-A	2.409	DFLD 2S	5.384	42.84	41.75	0.299	0.0550	PASS
3	56,25,31	8727.8	78.4	208.6	6.076	0.979A	1.70°S	11.91°S	BWT5_S-A	2.397	DFLD 2S	5.442	43.77	42.07	0.327	0.0590	PASS
4	23,8	8636.9	316.2	355.4	6.024	0.830A	0.62°S	12.60°S	VOID_S	2.483	DFLD 2S	5.653	44.56	43.94	0.462	0.0830	PASS
5	23	8704.8	0.0	107.1	6.065	0.837A	1.40°S	12.27°S	VOID_S	2.333	DFLD 2S	5.530	44.20	42.80	0.449	0.0815	PASS
6	21,6	8630.7	316.2	349.3	6.021	0.796A	0.55°S	12.69°S	VOID_S	2.504	DFLD 2S	5.674	44.66	44.12	0.463	0.0831	PASS
7	21	8704.1	0.0	106.5	6.067	0.731A	1.40°S	12.47°S	VOID_S	2.357	DFLD 2S	5.562	44.44	43.04	0.445	0.0809	PASS
8	19,4	8625.4	315.9	343.6	6.018	0.773A	0.48°S	12.75°S	VOID_S	2.522	DFLD 2S	5.691	44.74	44.27	0.464	0.0833	PASS
9	19	8703.9	0.0	106.2	6.069	0.625A	1.39°S	12.67°S	VOID_S	2.380	DFLD 2S	5.594	44.66	43.27	0.442	0.0805	PASS
10	17,2	8623.9	296.7	322.9	6.017	0.750A	0.46°S	12.80°S	VOID_S	2.530	DFLD 2S	5.701	44.79	44.30	0.478	0.0865	PASS
11	17	8706.3	0.0	108.6	6.072	0.512A	1.40°S	12.86°S	VOID_S	2.401	DFLD 2S	5.625	44.90	43.36	0.451	0.0832	PASS
12	15,54,52,46	8720.6	39.3	162.2	6.084	0.380A	1.02°S	13.04°S	VOID_S	2.475	DFLD 2S	5.695	45.12	43.75	0.466	0.0856	PASS
13	15,46	8702.5	39.3	144.1	6.071	0.451A	0.99°S	12.99°S	VOID_S	2.474	DFLD 2S	5.688	45.05	43.78	0.471	0.0862	PASS
14	53,52,13	8671.6	0.0	73.9	6.051	0.506A	0.00°S	13.03°S	VOID_S	2.617	DFLD 2S	5.790	45.09	44.76	0.485	0.0881	PASS
15	53,13	8671.6	0.0	73.9	6.051	0.506A	0.00°S	13.03°S	VOID_S	2.617	DFLD 2S	5.790	45.09	44.76	0.485	0.0881	PASS
16	26,47,32,57	8586.6	39.8	28.8	5.993	0.788A	0.20°S	12.90°S	VOID_S	2.581	DFLD 2S	5.739	44.90	44.57	0.494	0.0884	PASS
17	56,24,9,30,55,11	8814.0	452.6	668.9	6.124	1.186A	1.13°P	11.15°P	BWT5_P-A	2.407	DFLD 2P	5.386	42.89	41.76	0.308	0.0567	PASS
18	56,24,30	8721.9	78.4	202.6	6.072	0.971A	1.76°P	11.95°P	BWT5_P-A	2.393	DFLD 2P	5.443	43.82	42.06	0.336	0.0608	PASS
19	22,7	8631.9	316.2	350.4	6.021	0.829A	0.67°P	12.62°P	VOID_P	2.480	DFLD 2P	5.651	44.59	43.92	0.469	0.0844	PASS
20	22	8700.1	0.0	102.4	6.062	0.836A	1.45°P	12.30°P	VOID_P	2.329	DFLD 2P	5.528	44.22	42.78	0.456	0.0829	PASS
21	20,5	8625.7	316.2	344.3	6.017	0.800A	0.59°P	12.70°P	VOID_P	2.501	DFLD 2P	5.672	44.68	44.09	0.470	0.0844	PASS
22	20	8699.4	0.0	101.8	6.064	0.735A	1.44°P	12.49°P	VOID_P	2.353	DFLD 2P	5.559	44.45	43.01	0.453	0.0823	PASS
23	18,3	8620.1	315.9	338.4	6.014	0.783A	0.52°P	12.76°P	VOID_P	2.518	DFLD 2P	5.688	44.75	44.23	0.471	0.0847	PASS
24	18	8699.2	0.0	101.5	6.066	0.634A	1.44°P	12.67°P	VOID_P	2.375	DFLD 2P	5.590	44.67	43.24	0.449	0.0819	PASS
25	16,1	8618.3	296.7	317.3	6.013	0.767A	0.51°P	12.80°P	VOID_P	2.523	DFLD 2P	5.694	44.79	44.25	0.484	0.0876	PASS
26	16	8701.4	0.0	103.8	6.069	0.526A	1.47°P	12.86°P	VOID_P	2.392	DFLD 2P	5.617	44.89	43.30	0.458	0.0843	PASS
27	14,54,52,45	8720.5	41.0	163.8	6.084	0.380A	0.99°P	13.04°P	VOID_P	2.478	DFLD 2P	5.698	45.12	43.77	0.466	0.0857	PASS
28	14,45	8702.4	41.0	145.8	6.071	0.451A	0.98°P	12.99°P	VOID_P	2.475	DFLD 2P	5.688	45.05	43.78	0.471	0.0862	PASS

03 - Cargo Oil Full Loading Departure p=0.922(Homo)

DAMAGE STABILITY ASSESSMENT FOR INTERMEDIATE STAGES

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
	INITIAL CONDITION	8597.7	0.0	0.0	6.000	0.827A	0.00°S	12.78°S	VOID_S	2.593	DFLD 2S	5.740	44.76	44.76	0.504	0.0902	PASS

DAMAGE STABILITY ASSESSMENT - 4/5 Intermediate Stage (80.0 % of Flooding) with Added Weight Method

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
1	27,47,33,57	8583.0	53.1	38.5	5.991	0.775A	0.25°P	12.94°P	VOID_P	2.580	DFLD 2P	5.740	44.95	44.52	0.494	0.0883	PASS
2	56,25,10,31,55,12	8895.6	603.4	901.3	6.171	1.311A	2.04°S	10.56°S	BWT5_S-A	2.227	DFLD 2S	5.207	42.20	40.16	0.297	0.0554	PASS
3	56,25,31	8771.2	104.6	278.1	6.101	1.025A	2.88°S	11.62°S	BWT5_S-A	2.208	DFLD 2S	5.280	43.45	40.57	0.336	0.0618	PASS
4	23,8	8649.9	421.6	473.9	6.031	0.829A	1.22°S	12.53°S	VOID_S	2.393	DFLD 2S	5.584	44.49	43.27	0.473	0.0856	PASS
5	23	8740.5	0.0	142.8	6.087	0.838A	2.24°S	12.10°S	VOID_S	2.195	DFLD 2S	5.421	44.01	41.77	0.450	0.0826	PASS
6	21,6	8641.8	421.6	465.7	6.027	0.784A	1.11°S	12.66°S	VOID_S	2.423	DFLD 2S	5.614	44.63	43.52	0.473	0.0858	PASS
7	21	8739.6	0.0	142.0	6.089	0.696A	2.23°S	12.37°S	VOID_S	2.227	DFLD 2S	5.464	44.33	42.10	0.445	0.0820	PASS
8	19,4	8634.6	421.2	458.1	6.024	0.754A	1.01°S	12.75°S	VOID_S	2.447	DFLD 2S	5.637	44.74	43.72	0.475	0.0860	PASS
9	19	8739.3	0.0	141.6	6.092	0.555A	2.23°S	12.63°S	VOID_S	2.257	DFLD 2S	5.506	44.64	42.40	0.440	0.0813	PASS
10	17,2	8632.7	395.6	430.6	6.023	0.723A	0.99°S	12.81°S	VOID_S	2.458	DFLD 2S	5.649	44.81	43.77	0.484	0.0873	PASS
11	17	8742.5	0.0	144.8	6.096	0.405A	2.25°S	12.89°S	VOID_S	2.286	DFLD 2S	5.547	44.95	42.51	0.442	0.0816	PASS
12	15,54,52,46	8761.5	52.4	216.3	6.112	0.230A	1.39°S	13.13°S	VOID_S	2.431	DFLD 2S	5.677	45.24	43.38	0.451	0.0838	PASS
13	15,46	8737.4	52.4	192.1	6.095	0.325A	1.35°S	13.07°S	VOID_S	2.430	DFLD 2S	5.667	45.16	43.41	0.458	0.0846	PASS
14	53,52,13	8696.2	0.0	98.6	6.069	0.401A	0.00°S	13.12°S	VOID_S	2.624	DFLD 2S	5.806	45.20	44.76	0.482	0.0879	PASS
15	53,13	8696.2	0.0	98.6	6.069	0.401A	0.00°S	13.12°S	VOID_S	2.624	DFLD 2S	5.806	45.20	44.76	0.482	0.0879	PASS
16	26,47,32,57	8583.0	53.1	38.5	5.991	0.775A	0.25°S	12.94°S	VOID_S	2.579	DFLD 2S	5.740	44.95	44.51	0.494	0.0883	PASS
17	56,24,9,30,55,11	8886.1	603.4	891.9	6.165	1.300A	2.03°P	10.62°P	BWT5_P-A	2.235	DFLD 2P	5.217	42.27	40.24	0.303	0.0563	PASS
18	56,24,30	8763.3	104.6	270.2	6.096	1.015A	2.89°P	11.68°P	BWT5_P-A	2.212	DFLD 2P	5.287	43.50	40.62	0.343	0.0628	PASS
19	22,7	8643.3	421.6	467.2	6.027	0.828A	1.25°P	12.57°P	VOID_P	2.393	DFLD 2P	5.585	44.53	43.28	0.478	0.0863	PASS
20	22	8734.2	0.0	136.6	6.083	0.837A	2.28°P	12.13°P	VOID_P	2.194	DFLD 2P	5.421	44.04	41.77	0.456	0.0834	PASS
21	20,5	8635.0	421.6	459.0	6.023	0.790A	1.14°P	12.68°P	VOID_P	2.422	DFLD 2P	5.613	44.66	43.52	0.479	0.0865	PASS
22	20	8733.3	0.0	135.7	6.085	0.702A	2.27°P	12.39°P	VOID_P	2.225	DFLD 2P	5.463	44.34	42.08	0.451	0.0828	PASS
23	18,3	8627.6	421.2	451.1	6.019	0.767A	1.04°P	12.75°P	VOID_P	2.445	DFLD 2P	5.635	44.74	43.70	0.481	0.0868	PASS
24	18	8733.0	0.0	135.3	6.087	0.567A	2.27°P	12.64°P	VOID_P	2.254	DFLD 2P	5.503	44.64	42.37	0.446	0.0822	PASS
25	16,1	8625.2	395.6	423.1	6.018	0.745A	1.01°P	12.81°P	VOID_P	2.455	DFLD 2P	5.646	44.80	43.75	0.488	0.0879	PASS
26	16	8736.0	0.0	138.4	6.092	0.423A	2.28°P	12.89°P	VOID_P	2.281	DFLD 2P	5.543	44.94	42.48	0.445	0.0822	PASS
27	14,54,52,45	8761.5	54.7	218.5	6.112	0.230A	1.36°P	13.13°P	VOID_P	2.435	DFLD 2P	5.680	45.24	43.40	0.451	0.0839	PASS
28	14,45	8737.4	54.7	194.4	6.095	0.325A	1.35°P	13.07°P	VOID_P	2.431	DFLD 2P	5.668	45.16	43.42	0.458	0.0846	PASS

03 - Cargo Oil Full Loading Departure p=0.922(Homo)

DAMAGE STABILITY ASSESSMENT FOR INTERMEDIATE STAGES

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
	INITIAL CONDITION	8597.7	0.0	0.0	6.000	0.827A	0.00°S	12.78°S	VOID_S	2.593	DFLD 2S	5.740	44.76	44.76	0.504	0.0902	PASS

DAMAGE STABILITY ASSESSMENT - Final Stage of Flooding Equilibrium with Lost Buoyancy Method

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
1	27,47,33,57	8531.2	66.4	48.1	5.990	0.764A	0.29°P	13.15°P	VOID_P	2.578	DFLD 2P	5.741	41.48	41.19	0.637	0.1165	PASS
2	56,25,10,31,55,12	7843.4	754.3	1126.7	6.214	1.438A	3.11°S	9.50°S	BWT5_S-A	2.026	DFLD 2S	5.011	39.75	36.64	0.467	0.0889	PASS
3	56,25,31	8466.9	130.7	347.7	6.126	1.072A	4.16°S	11.10°S	BWT5_S-A	2.003	DFLD 2S	5.105	42.72	38.56	0.511	0.0971	PASS
4	23,8	8070.6	527.0	592.4	6.040	0.829A	1.90°S	12.12°S	VOID_S	2.290	DFLD 2S	5.505	43.47	41.56	0.604	0.1112	PASS
5	23	8597.7	0.0	178.5	6.108	0.838A	3.14°S	11.85°S	VOID_S	2.049	DFLD 2S	5.305	43.69	40.56	0.633	0.1189	PASS
6	21,6	8070.6	527.0	582.2	6.035	0.769A	1.77°S	12.40°S	VOID_S	2.328	DFLD 2S	5.543	44.00	42.23	0.595	0.1099	PASS
7	21	8597.7	0.0	177.5	6.111	0.660A	3.13°S	12.21°S	VOID_S	2.088	DFLD 2S	5.359	44.14	41.00	0.624	0.1177	PASS
8	19,4	8071.2	526.5	572.7	6.031	0.727A	1.65°S	12.65°S	VOID_S	2.359	DFLD 2S	5.573	44.55	42.90	0.584	0.1085	PASS
9	19	8597.7	0.0	177.1	6.114	0.482A	3.14°S	12.57°S	VOID_S	2.126	DFLD 2S	5.411	44.58	41.44	0.616	0.1165	PASS
10	17,2	8103.2	494.5	538.2	6.030	0.685A	1.59°S	12.90°S	VOID_S	2.378	DFLD 2S	5.594	45.13	43.18	0.569	0.1067	PASS
11	17	8597.7	0.0	181.0	6.120	0.292A	3.13°S	12.94°S	VOID_S	2.166	DFLD 2S	5.467	45.05	41.63	0.599	0.1137	PASS
12	15,54,52,46	8532.2	65.5	270.3	6.140	0.073A	1.79°S	12.60°S	VOID_S	2.384	DFLD 2S	5.657	46.23	42.98	0.583	0.1128	PASS
13	15,46	8532.2	65.5	240.2	6.119	0.193A	1.75°S	12.98°S	VOID_S	2.383	DFLD 2S	5.644	45.56	43.02	0.594	0.1136	PASS
14	53,52,13	8597.7	0.0	123.2	6.086	0.297A	0.01°S	13.21°S	VOID_S	2.631	DFLD 2S	5.822	45.89	44.76	0.655	0.1192	PASS
15	53,13	8597.7	0.0	123.2	6.086	0.297A	0.01°S	13.21°S	VOID_S	2.631	DFLD 2S	5.822	45.46	44.76	0.656	0.1192	PASS
16	26,47,32,57	8531.2	66.4	48.1	5.990	0.764A	0.30°S	13.15°S	VOID_S	2.578	DFLD 2S	5.741	41.48	41.18	0.637	0.1165	PASS
17	56,24,9,30,55,11	7843.4	754.3	1114.9	6.208	1.425A	3.04°P	9.57°P	BWT5_P-A	2.044	DFLD 2P	5.030	39.83	36.79	0.466	0.0885	PASS
18	56,24,30	8466.9	130.7	337.7	6.120	1.061A	4.11°P	11.17°P	BWT5_P-A	2.017	DFLD 2P	5.120	42.79	38.68	0.510	0.0968	PASS
19	22,7	8070.6	527.0	584.0	6.035	0.829A	1.90°P	12.16°P	VOID_P	2.296	DFLD 2P	5.511	43.50	41.61	0.603	0.1109	PASS
20	22	8597.7	0.0	170.7	6.103	0.837A	3.14°P	11.89°P	VOID_P	2.053	DFLD 2P	5.310	43.73	40.59	0.632	0.1186	PASS
21	20,5	8070.6	527.0	573.8	6.030	0.777A	1.76°P	12.42°P	VOID_P	2.332	DFLD 2P	5.547	44.02	42.26	0.594	0.1097	PASS
22	20	8597.7	0.0	169.6	6.106	0.668A	3.13°P	12.23°P	VOID_P	2.092	DFLD 2P	5.362	44.16	41.03	0.624	0.1174	PASS
23	18,3	8071.2	526.5	563.9	6.025	0.744A	1.63°P	12.66°P	VOID_P	2.363	DFLD 2P	5.575	44.56	42.92	0.584	0.1083	PASS
24	18	8597.7	0.0	169.2	6.109	0.497A	3.14°P	12.58°P	VOID_P	2.127	DFLD 2P	5.412	44.59	41.45	0.615	0.1163	PASS
25	16,1	8103.2	494.5	528.9	6.024	0.712A	1.56°P	12.89°P	VOID_P	2.381	DFLD 2P	5.594	45.12	43.20	0.569	0.1065	PASS
26	16	8597.7	0.0	173.0	6.115	0.315A	3.13°P	12.94°P	VOID_P	2.166	DFLD 2P	5.465	45.04	41.63	0.599	0.1136	PASS
27	14,54,52,45	8529.3	68.3	273.1	6.140	0.073A	1.76°P	12.60°P	VOID_P	2.388	DFLD 2P	5.660	46.23	43.00	0.583	0.1129	PASS
28	14,45	8529.3	68.3	242.9	6.119	0.193A	1.74°P	12.98°P	VOID_P	2.383	DFLD 2P	5.645	45.56	43.02	0.594	0.1136	PASS

03 - Cargo Oil Full Loading Departure p=0.922(Homo)

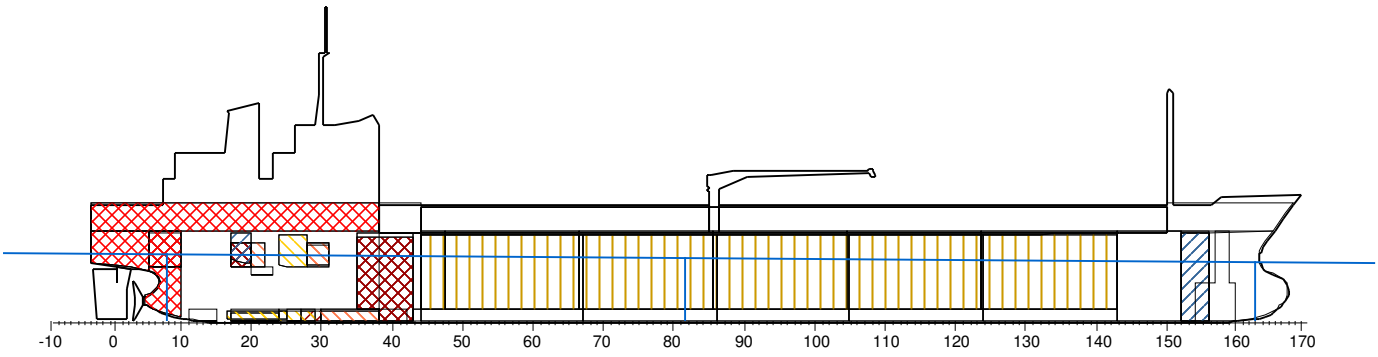
DAMAGE STABILITY ASSESSMENT FOR INTERMEDIATE STAGES

No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
	INITIAL CONDITION	8597.7	0.0	0.0	6.000	0.827A	0.00°S	12.78°S	VOID_S	2.593	DFLD 2S	5.740	44.76	44.76	0.504	0.0902	PASS

DAMAGE STABILITY ASSESSMENT OVER ALL INTERMEDIATE STAGES

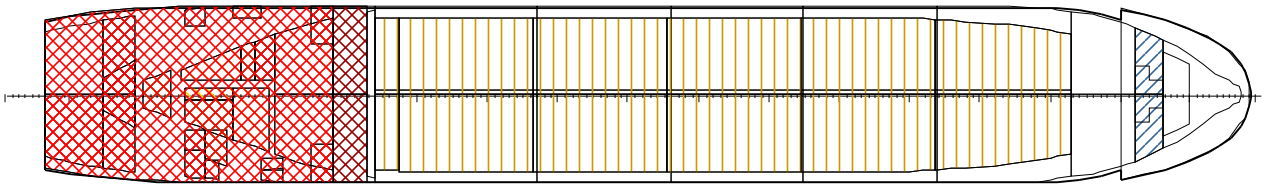
No	Damaged Spaces	Displ. [MT]	outflow [MT]	inflow [MT]	draft MS m	trim [m]	list deg	D.Imm. [deg]	Protected Opening	Protec. margin	Unprot. Opening	Unprot. margin	Flood. [deg]	range [deg]	GZ20 [m]	area20 m rad	Case Judge
1	27,47,33,57	8531.2	66.4	48.1	5.990	0.764A	0.29°P	12.78°P	VOID_P	2.578	DFLD 2P	5.741	41.48	41.19	0.494	0.0883	PASS
2	56,25,10,31,55,12	7843.4	754.3	1126.7	6.214	1.438A	3.11°S	9.50°S	BWT5_S-A	2.026	DFLD 2S	5.011	39.75	36.64	0.297	0.0550	PASS
3	56,25,31	8466.9	130.7	347.7	6.126	1.072A	4.16°S	11.10°S	BWT5_S-A	2.003	DFLD 2S	5.105	42.72	38.56	0.327	0.0590	PASS
4	23,8	8070.6	527.0	592.4	6.040	0.829A	1.90°S	12.12°S	VOID_S	2.290	DFLD 2S	5.505	43.47	41.56	0.461	0.0823	PASS
5	23	8597.7	0.0	178.5	6.108	0.838A	3.14°S	11.85°S	VOID_S	2.049	DFLD 2S	5.305	43.69	40.56	0.449	0.0815	PASS
6	21,6	8070.6	527.0	582.2	6.035	0.769A	1.77°S	12.40°S	VOID_S	2.328	DFLD 2S	5.543	44.00	42.23	0.462	0.0823	PASS
7	21	8597.7	0.0	177.5	6.111	0.660A	3.13°S	12.21°S	VOID_S	2.088	DFLD 2S	5.359	44.14	41.00	0.445	0.0809	PASS
8	19,4	8071.2	526.5	572.7	6.031	0.727A	1.65°S	12.65°S	VOID_S	2.359	DFLD 2S	5.573	44.55	42.90	0.462	0.0825	PASS
9	19	8597.7	0.0	177.1	6.114	0.482A	3.14°S	12.57°S	VOID_S	2.126	DFLD 2S	5.411	44.58	41.44	0.440	0.0805	PASS
10	17,2	8103.2	494.5	538.2	6.030	0.685A	1.59°S	12.78°S	VOID_S	2.378	DFLD 2S	5.594	45.13	43.18	0.472	0.0846	PASS
11	17	8597.7	0.0	181.0	6.120	0.292A	3.13°S	12.78°S	VOID_S	2.166	DFLD 2S	5.467	45.05	41.63	0.442	0.0816	PASS
12	15,54,52,46	8532.2	65.5	270.3	6.140	0.073A	1.79°S	12.60°S	VOID_S	2.384	DFLD 2S	5.657	46.23	42.98	0.451	0.0838	PASS
13	15,46	8532.2	65.5	240.2	6.119	0.193A	1.75°S	12.78°S	VOID_S	2.383	DFLD 2S	5.644	45.56	43.02	0.458	0.0846	PASS
14	53,52,13	8597.7	0.0	123.2	6.086	0.297A	0.01°S	12.78°S	VOID_S	2.631	DFLD 2S	5.822	45.89	44.76	0.482	0.0879	PASS
15	53,13	8597.7	0.0	123.2	6.086	0.297A	0.01°S	12.78°S	VOID_S	2.631	DFLD 2S	5.822	45.46	44.76	0.482	0.0879	PASS
16	26,47,32,57	8531.2	66.4	48.1	5.990	0.764A	0.30°S	12.78°S	VOID_S	2.578	DFLD 2S	5.741	41.48	41.18	0.494	0.0883	PASS
17	56,24,9,30,55,11	7843.4	754.3	1114.9	6.208	1.425A	3.04°P	9.57°P	BWT5_P-A	2.044	DFLD 2P	5.030	39.83	36.79	0.303	0.0563	PASS
18	56,24,30	8466.9	130.7	337.7	6.120	1.061A	4.11°P	11.17°P	BWT5_P-A	2.017	DFLD 2P	5.120	42.79	38.68	0.336	0.0608	PASS
19	22,7	8070.6	527.0	584.0	6.035	0.829A	1.90°P	12.16°P	VOID_P	2.296	DFLD 2P	5.511	43.50	41.61	0.468	0.0836	PASS
20	22	8597.7	0.0	170.7	6.103	0.837A	3.14°P	11.89°P	VOID_P	2.053	DFLD 2P	5.310	43.73	40.59	0.456	0.0829	PASS
21	20,5	8070.6	527.0	573.8	6.030	0.777A	1.76°P	12.42°P	VOID_P	2.332	DFLD 2P	5.547	44.02	42.26	0.469	0.0837	PASS
22	20	8597.7	0.0	169.6	6.106	0.668A	3.13°P	12.23°P	VOID_P	2.092	DFLD 2P	5.362	44.16	41.03	0.451	0.0823	PASS
23	18,3	8071.2	526.5	563.9	6.025	0.744A	1.63°P	12.66°P	VOID_P	2.363	DFLD 2P	5.575	44.56	42.92	0.469	0.0838	PASS
24	18	8597.7	0.0	169.2	6.109	0.497A	3.14°P	12.58°P	VOID_P	2.127	DFLD 2P	5.412	44.59	41.45	0.446	0.0819	PASS
25	16,1	8103.2	494.5	528.9	6.024	0.712A	1.56°P	12.78°P	VOID_P	2.381	DFLD 2P	5.594	45.12	43.20	0.478	0.0856	PASS
26	16	8597.7	0.0	173.0	6.115	0.315A	3.13°P	12.78°P	VOID_P	2.166	DFLD 2P	5.465	45.04	41.63	0.445	0.0822	PASS
27	14,54,52,45	8529.3	68.3	273.1	6.140	0.073A	1.76°P	12.60°P	VOID_P	2.388	DFLD 2P	5.660	46.23	43.00	0.451	0.0839	PASS
28	14,45	8529.3	68.3	242.9	6.119	0.193A	1.74°P	12.78°P	VOID_P	2.383	DFLD 2P	5.645	45.56	43.02	0.458	0.0846	PASS

No.1 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.023	37905.7	-0.003	-13.5	4.540	24502.4	3370.25
Fuel	329.50	-31.394	-10344.2	-0.248	-81.8	4.336	1428.6	306.76
Diesel	62.55	-31.789	-1988.5	1.092	68.3	1.472	92.1	200.57
Lub. Oil	31.74	-37.312	-1184.4	-0.810	-25.7	1.339	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	2.37	-39.979	-94.9	1.035	2.5	0.838	2.0	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8531.24	1.867	15924.9	-0.016	-136.3	4.908	41872.3	3999.04
Outflow	66.41	-48.041	-3190.2	2.064	137.1	5.760	382.5	83.96
Inflow	48.08	-49.136	-2362.4	1.108	53.3	4.797	230.6	233.09

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8531.24	MT	TRANSVERSE METACENTRE	KM	6.742	m
DRAFT CORRESPONDING	Tcf	5.996	m	VERT. CENTER OF GRAVITY	KG	4.908	m
DRAFT F.P.	Tfp	5.608	m	METACENTRIC HEIGHT	GM	1.819	m
DRAFT A.P.	Tap	6.371	m	FREE SURFACE MOMENT	FSM	3999.04	MT m
DRAFT MEAN	Tms	5.990	m	FREE SURFACE CORRECTION	GGc	0.469	m
TRIM	trim	0.764	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.354	m
LONG. CENTER BUOYANCY	LCB	1.854	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.377	m
LONG. CENTER FLOTATION	LCF	-0.889	m +fwdMS	PROPELLER IMMERSION	P.I	115.2	%
MOMENT TO CHANGE TRIM	MCT	114.31	MT m / cm	AHEAD VISIBILITY	A.V	110.6	m
TONS PER CENTIMETRE	TPC	15.72	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.1 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	0.29	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.578	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.739	m	min	0.000	Stage 5 (DFLD 2P)	PASS
4	Angle of Protected Immersion	19.09	deg	min	0.29	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	41.48	deg	min	0.29	Stage 5 (DFLD 2P)	PASS
6	Range of Stability	41.19	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.494	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0883	m rad	min	0.0175	Stage 4	PASS

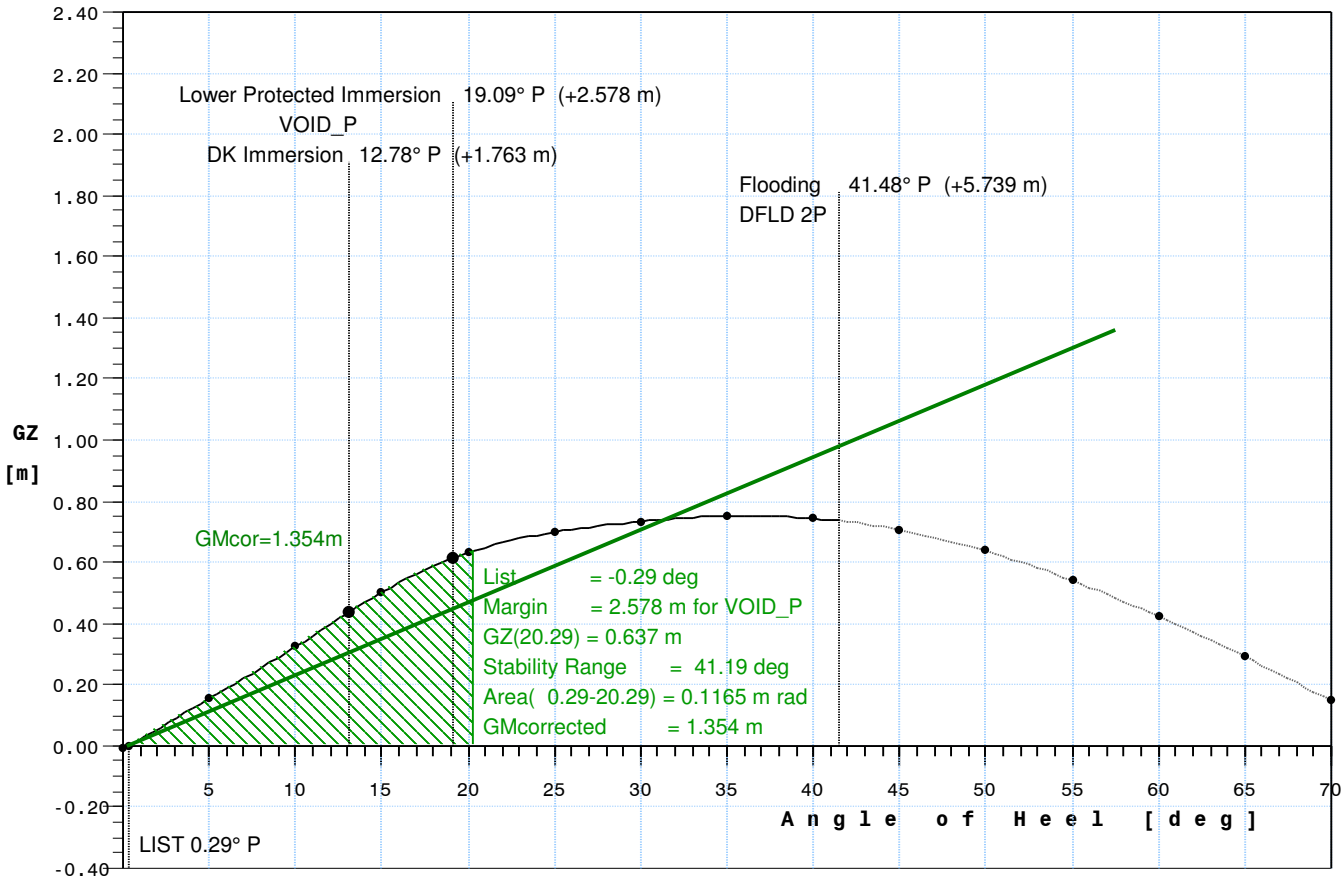
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
27	A.B.W.T.(S)	20.6	Flooded (0.95 perm)	14.92	14.56	-51.908	1.506	5.858
47	C.W.T.	95.0	Flooded (0.95 perm)	18.83	18.37	-47.685	0.000	3.217
33	No.2 H.O.T.(S)	27.4	Flooded (0.95 perm)	14.32	13.97	-48.157	2.149	5.769
57	POOP							
	Damage Inflow			48.08	46.91	-49.136	1.108	4.797

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.094	-3.178	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.095	3.173	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	-3.463	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	3.458	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.487	-3.466	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.487	3.461	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.863	-3.466	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.863	3.461	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.213	-3.466	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.213	3.461	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.446	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.441	4.535	61.34	15.0	1.0000
	Cargo Total			5397.08	7.023	-0.003	4.540	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)	FLOODED						
	Ballast Total			0.00				

No.1 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)



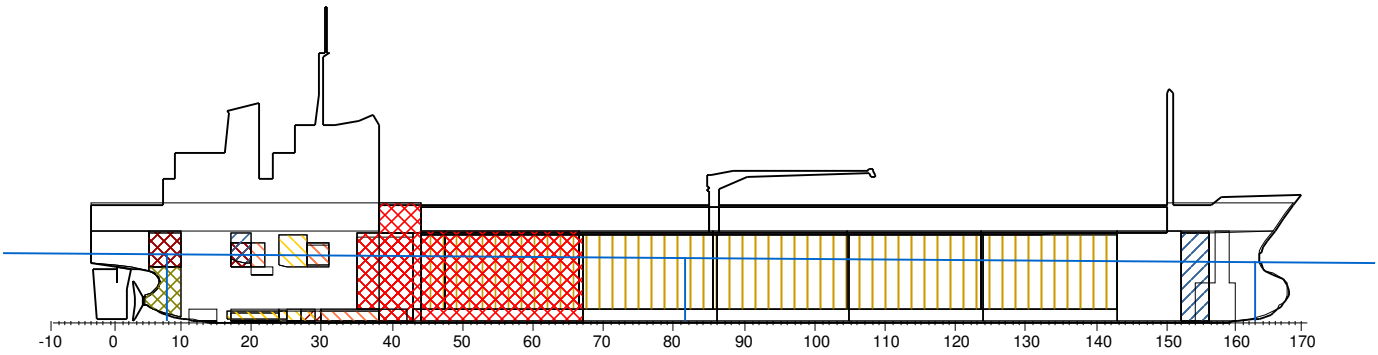
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.764A	5.990	1.867	-0.016	4.908	0.006	-0.009	0.000	2.618	5.770
0.29	0.764A	5.990	1.867	-0.016	4.908	0.041	0.000	0.000	2.578	5.741
5.00	0.718A	5.982	1.867	-0.016	4.908	0.599	0.155	0.006	1.943	5.270
10.00	0.637A	5.966	1.867	-0.016	4.908	1.195	0.324	0.027	1.268	4.747
13.15	0.572A	5.953	1.867	-0.016	4.908	1.568	0.439	0.048	0.844	4.407
15.00	0.533A	5.944	1.867	-0.016	4.908	1.792	0.503	0.063	0.593	4.200
19.09	0.463A	5.962	1.867	-0.016	4.908	2.230	0.613	0.103	0.000	3.689
20.00	0.447A	5.966	1.867	-0.016	4.908	2.330	0.632	0.113	-0.132	3.573
25.00	0.359A	6.057	1.867	-0.016	4.908	2.793	0.699	0.172	-0.919	2.855
30.00	0.285A	6.211	1.867	-0.016	4.908	3.208	0.734	0.234	-1.752	2.062
35.00	0.257A	6.431	1.867	-0.016	4.908	3.585	0.751	0.299	-2.622	1.199
40.00	0.264A	6.726	1.867	-0.016	4.908	3.916	0.743	0.365	-3.514	0.282
41.48	0.280A	6.830	1.867	-0.016	4.908	3.993	0.735	0.384	-3.782	0.000
45.00	0.321A	7.100	1.867	-0.016	4.908	4.194	0.706	0.428	-4.411	-0.671
50.00	0.411A	7.564	1.867	-0.016	4.908	4.412	0.637	0.487	-5.289	-1.636
55.00	0.551A	8.149	1.867	-0.016	4.908	4.574	0.540	0.539	-6.139	-2.600
60.00	0.750A	8.910	1.867	-0.016	4.908	4.685	0.423	0.581	-6.948	-3.552
65.00	1.019A	9.949	1.867	-0.016	4.908	4.749	0.291	0.612	-7.707	-4.480
70.00	1.410A	11.476	1.867	-0.016	4.908	4.768	0.150	0.631	-8.410	-5.376

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

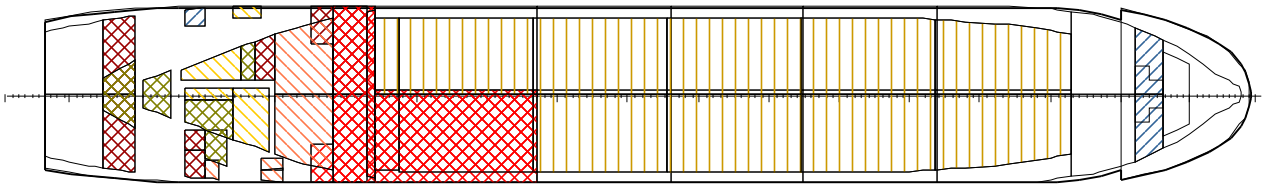
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.578	m	min 0.000	PASS	at completion of flooding
Angle of Heel	0.29P	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.19	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.494	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0883	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.2 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4773.52	10.195	48667.4	-0.425	-2030.1	4.542	21679.1	2969.34
Fuel	245.84	-36.551	-8985.6	-2.815	-692.1	5.053	1242.3	287.52
Diesel	62.55	-31.791	-1988.6	1.184	74.0	1.474	92.2	200.57
Lub. Oil	31.74	-37.316	-1184.5	-0.755	-24.0	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.841	-1017.1	0.132	2.9	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	7843.36	3.464	27168.6	-0.371	-2912.0	4.962	38920.9	3578.88
Outflow	754.29	-19.136	-14433.9	3.862	2912.7	4.420	3334.0	504.12
Inflow	1126.68	-20.401	-22985.8	3.346	3769.8	5.846	6586.2	1838.94

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	7843.36	MT	TRANSVERSE METACENTRE	KM	6.477	m
DRAFT CORRESPONDING	Tcf	6.205	m	VERT. CENTER OF GRAVITY	KG	4.962	m
DRAFT F.P.	Tfp	5.495	m	METACENTRIC HEIGHT	GM	1.382	m
DRAFT A.P.	Tap	6.934	m	FREE SURFACE MOMENT	FSM	3578.88	MT m
DRAFT MEAN	Tms	6.214	m	FREE SURFACE CORRECTION	GGc	0.456	m
TRIM	trim	1.438	m by STERN	METACENTRIC HEIGHT CORR.	GMc	0.965	m
LONG. CENTER BUOYANCY	LCB	3.436	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.419	m
LONG. CENTER FLOTATION	LCF	-0.651	m +fwdMS	PROPELLER IMMERSION	P.I	129.8	%
MOMENT TO CHANGE TRIM	MCT	121.97	MT m / cm	AHEAD VISIBILITY	A.V	127.3	m
TONS PER CENTIMETRE	TPC	14.63	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.2 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.11	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.026	m	min	0.000	Stage 5 (BWT5_S-A)	PASS
3	Margin of Unprotected Opening	5.011	m	min	0.000	Stage 5 (DFLD 2S)	PASS
4	Angle of Protected Immersion	17.09	deg	min	3.11	Stage 5 (BWT5_S-A)	PASS
5	Angle of Unprotected Immersion	39.75	deg	min	3.11	Stage 5 (DFLD 2S)	PASS
6	Range of Stability	36.64	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.297	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0550	m rad	min	0.0175	Stage 3	PASS

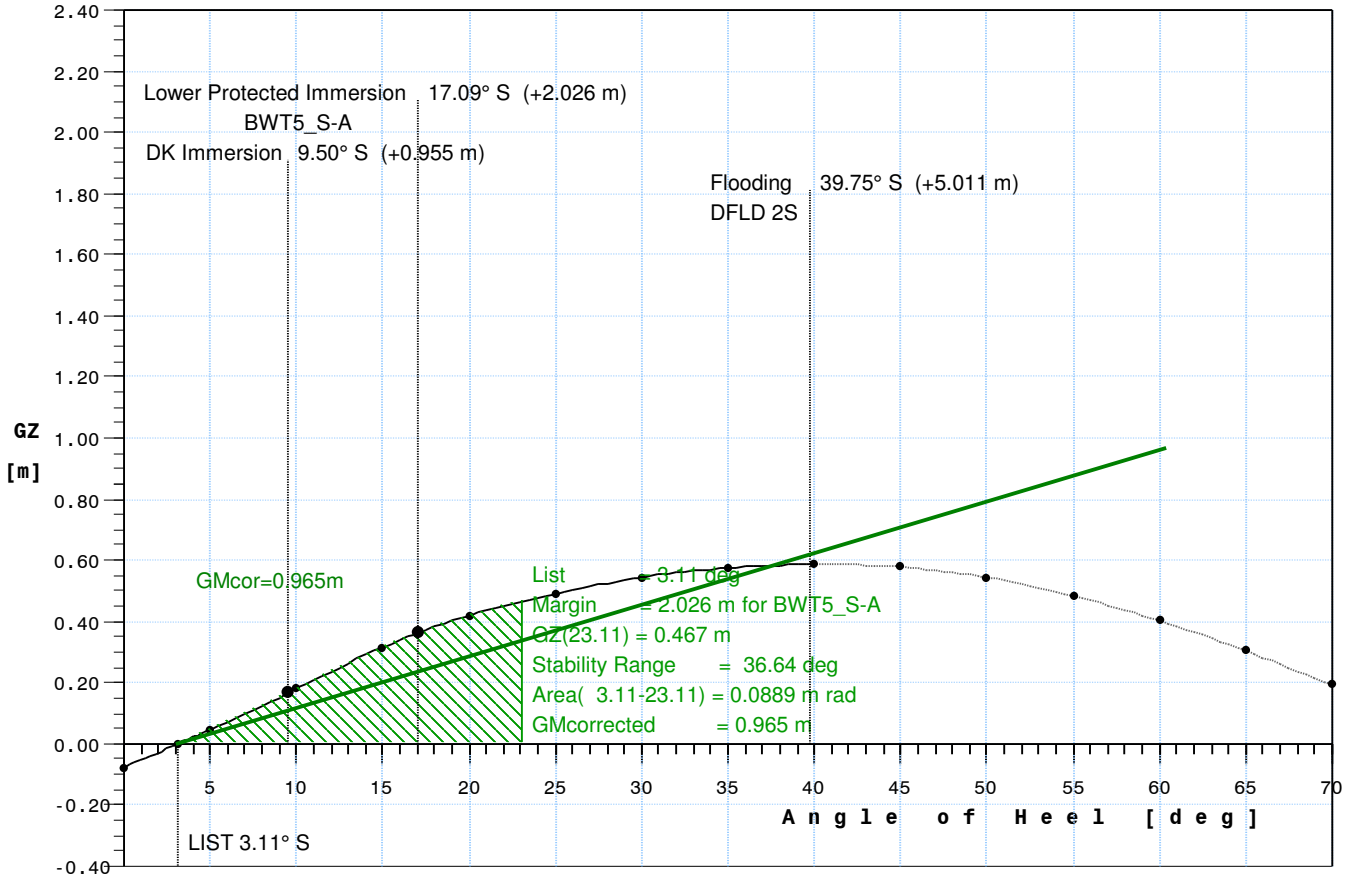
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
56	BOTTOM VOID	95.0	Flooded (0.95 perm)	11.89	11.60	-25.029	0.564	231.940
25	No.6 B.W.T.(S)	85.6	Flooded (0.95 perm)	219.51	214.15	-17.150	5.323	1.927
10	No.5 C.O.T.(S)	74.1	Flooded (0.95 perm)	452.70	441.66	-16.231	3.523	3.905
31	No.1 H.O.T.(S)	80.9	Flooded (0.95 perm)	117.69	114.82	-27.721	5.713	3.437
55	PUMP ROOM	48.8	Flooded (0.95 perm)	240.57	234.70	-26.317	0.135	3.740
12	SLOP TANK (S)	75.4	Flooded (0.95 perm)	84.32	82.26	-23.507	3.499	3.951
	Damage Inflow			1126.68	1099.20	-20.401	3.346	5.846

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.086	-3.149	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.080	3.201	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.816	-3.433	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.816	3.487	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.476	-3.436	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.477	3.489	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.874	-3.436	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.873	3.489	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.224	-3.436	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.231	3.523	3.905	358.78	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.507	-3.416	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.507	3.499	3.951	64.80	15.0	1.0000
	Cargo Total			4773.52	10.195	-0.425	4.542	2969.34		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)	FLOODED						
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.2 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



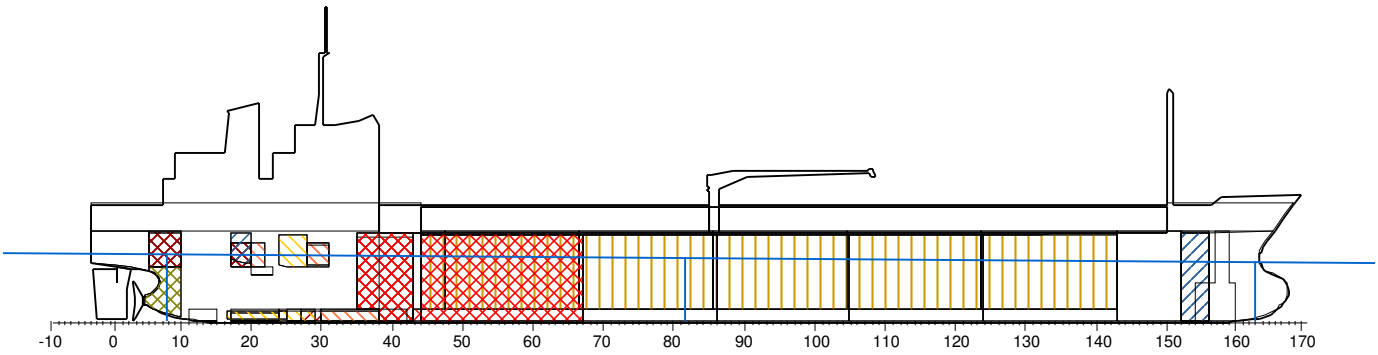
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	1.385A	6.193	3.464	-0.371	4.962	-0.455	-0.077	0.000	2.475	5.370
3.11	1.438A	6.214	3.464	-0.371	4.962	-0.101	0.000	0.000	2.026	5.011
5.00	1.456A	6.225	3.464	-0.371	4.962	0.115	0.048	0.001	1.755	4.793
9.50	1.480A	6.244	3.464	-0.371	4.962	0.635	0.166	0.009	1.109	4.267
10.00	1.483A	6.246	3.464	-0.371	4.962	0.693	0.180	0.011	1.036	4.206
15.00	1.485A	6.266	3.464	-0.371	4.962	1.272	0.316	0.032	0.313	3.596
17.09	1.453A	6.289	3.464	-0.371	4.962	1.492	0.364	0.045	0.000	3.330
20.00	1.409A	6.320	3.464	-0.371	4.962	1.808	0.419	0.065	-0.436	2.952
25.00	1.207A	6.418	3.464	-0.371	4.962	2.300	0.492	0.105	-1.210	2.283
30.00	0.957A	6.566	3.464	-0.371	4.962	2.756	0.544	0.150	-2.008	1.570
35.00	0.741A	6.777	3.464	-0.371	4.962	3.173	0.576	0.199	-2.833	0.790
39.75	0.540A	7.049	3.464	-0.371	4.962	3.528	0.586	0.247	-3.635	0.000
40.00	0.529A	7.064	3.464	-0.371	4.962	3.548	0.586	0.250	-3.677	-0.041
45.00	0.315A	7.430	3.464	-0.371	4.962	3.880	0.578	0.301	-4.518	-0.903
50.00	0.053A	7.888	3.464	-0.371	4.962	4.159	0.544	0.350	-5.339	-1.771
55.00	0.269F	8.459	3.464	-0.371	4.962	4.382	0.484	0.395	-6.122	-2.628
60.00	0.683F	9.196	3.464	-0.371	4.962	4.553	0.403	0.434	-6.860	-3.468
65.00	1.243F	10.205	3.464	-0.371	4.962	4.674	0.304	0.465	-7.550	-4.284
70.00	2.063F	11.689	3.464	-0.371	4.962	4.749	0.194	0.487	-8.185	-5.071

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

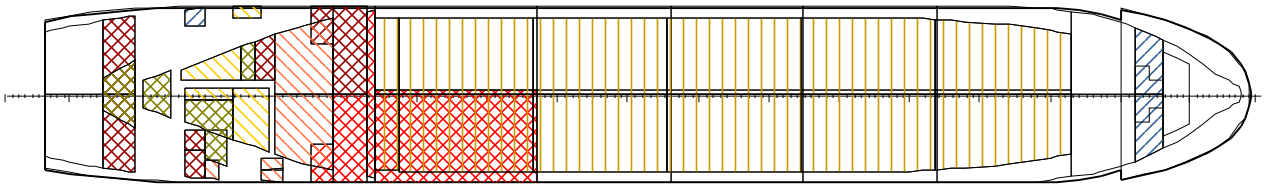
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.026	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.11S	deg	max 25.00	PASS	at completion of flooding
Stability Range	36.64	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.297	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0550	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.3 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.019	37882.6	0.035	189.9	4.541	24509.3	3370.25
Fuel	245.84	-36.550	-8985.3	-2.809	-690.5	5.054	1242.4	287.52
Diesel	62.55	-31.787	-1988.4	1.189	74.4	1.474	92.2	200.57
Lub. Oil	31.74	-37.313	-1184.4	-0.750	-23.8	1.341	42.6	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.836	-1017.0	0.139	3.0	2.958	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8466.92	1.932	16361.5	-0.089	-754.5	4.931	41748.1	3979.80
Outflow	130.73	-27.744	-3626.9	5.777	755.2	3.877	506.8	103.20
Inflow	347.66	-20.957	-7285.9	5.289	1838.7	10.284	3575.5	805.13

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8466.92	MT	TRANSVERSE METACENTRE	KM	6.479	m
DRAFT CORRESPONDING	Tcf	6.141	m	VERT. CENTER OF GRAVITY	KG	4.931	m
DRAFT F.P.	Tfp	5.589	m	METACENTRIC HEIGHT	GM	1.525	m
DRAFT A.P.	Tap	6.662	m	FREE SURFACE MOMENT	FSM	3979.80	MT m
DRAFT MEAN	Tms	6.126	m	FREE SURFACE CORRECTION	GGc	0.470	m
TRIM	trim	1.072	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.062	m
LONG. CENTER BUOYANCY	LCB	1.912	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.401	m
LONG. CENTER FLOTATION	LCF	-2.029	m +fwdMS	PROPELLER IMMERSION	P.I	122.8	%
MOMENT TO CHANGE TRIM	MCT	124.69	MT m / cm	AHEAD VISIBILITY	A.V	117.2	m
TONS PER CENTIMETRE	TPC	15.93	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.3 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	4.16	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.003	m	min	0.000	Stage 5 (BWT5_S-A)	PASS
3	Margin of Unprotected Opening	5.105	m	min	0.000	Stage 5 (DFLD 2S)	PASS
4	Angle of Protected Immersion	18.39	deg	min	4.16	Stage 5 (BWT5_S-A)	PASS
5	Angle of Unprotected Immersion	42.72	deg	min	4.16	Stage 5 (DFLD 2S)	PASS
6	Range of Stability	38.56	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.327	m	min	0.100	Stage 3	PASS
8	GZ Area (20 deg range)	0.0590	m rad	min	0.0175	Stage 3	PASS

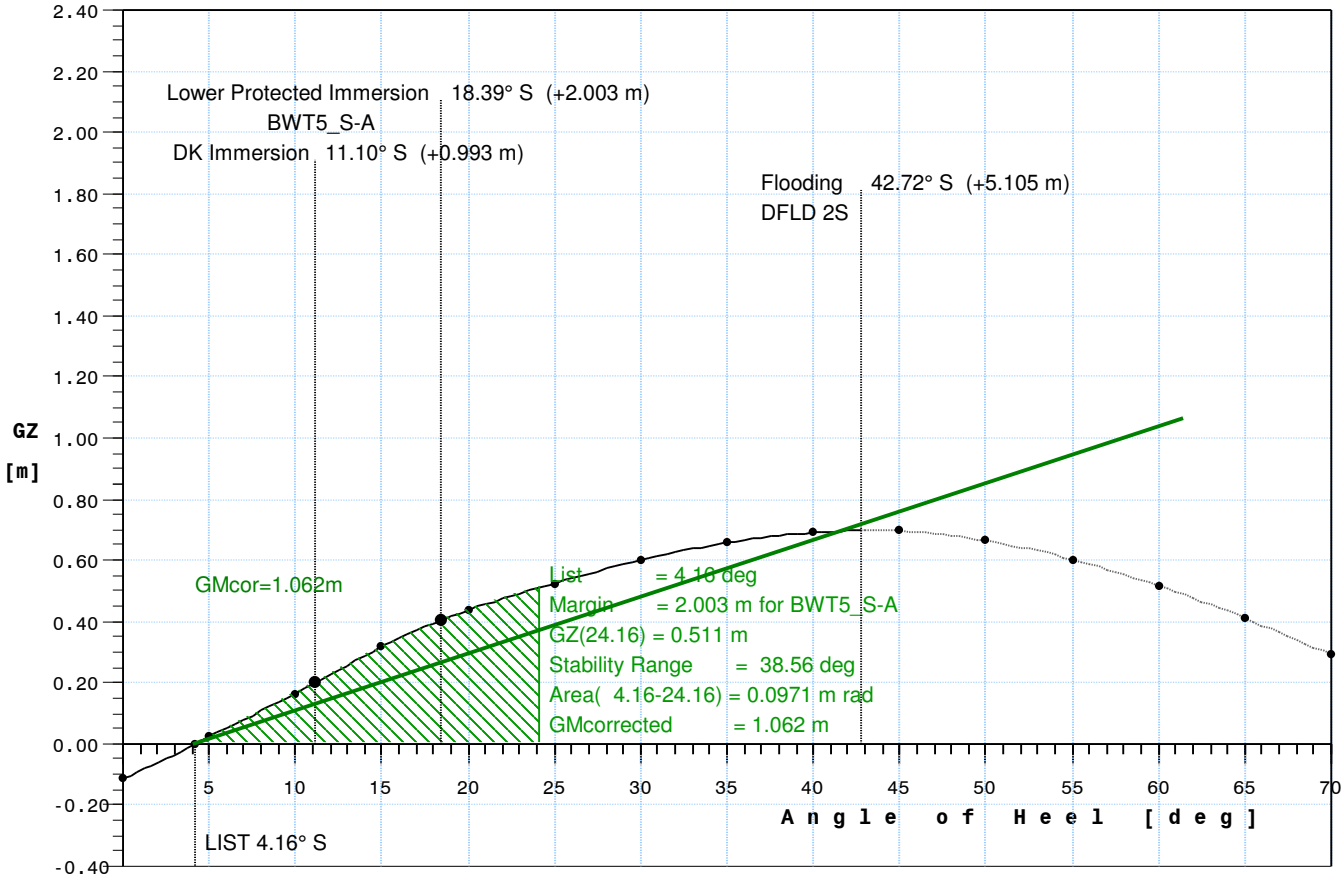
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
56	BOTTOM VOID	95.0	Flooded (0.95 perm)	11.89	11.60	-25.029	0.564	231.940
25	No.6 B.W.T.(S)	85.5	Flooded (0.95 perm)	219.30	213.96	-17.145	5.321	1.923
31	No.1 H.O.T.(S)	80.1	Flooded (0.95 perm)	116.47	113.63	-27.718	5.710	3.401
	Damage Inflow			347.66	339.18	-20.957	5.289	10.284

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.094	-3.140	4.569	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.087	3.208	4.569	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.822	-3.424	4.535	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.823	3.495	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.482	-3.426	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.484	3.497	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.868	-3.426	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.866	3.497	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.218	-3.426	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.216	3.497	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.507	-3.407	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.478	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.019	0.035	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)	FLOODED						
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.3 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



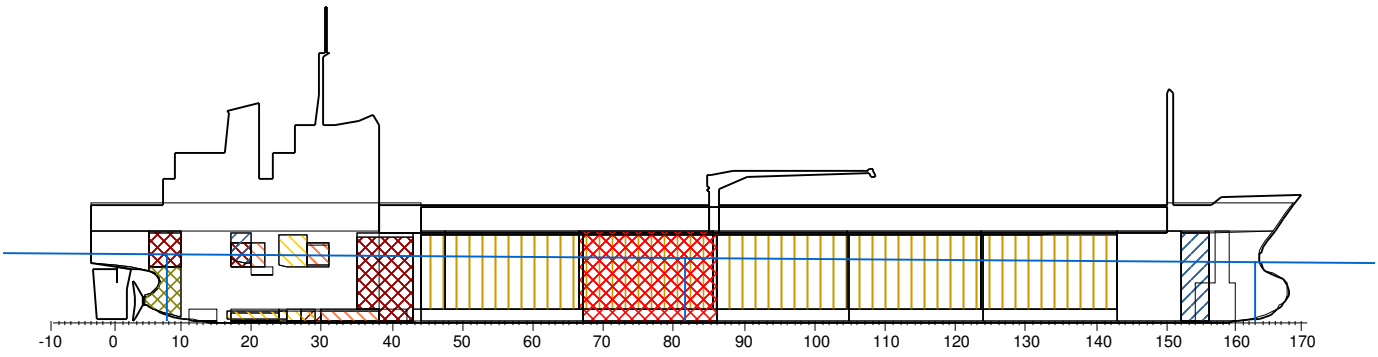
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	1.054A	6.117	1.932	-0.089	4.931	-0.204	-0.113	0.000	2.579	5.550
4.16	1.072A	6.126	1.932	-0.089	4.931	0.268	0.000	0.000	2.003	5.105
5.00	1.073A	6.126	1.932	-0.089	4.931	0.365	0.023	0.000	1.886	5.013
10.00	1.055A	6.128	1.932	-0.089	4.931	0.937	0.166	0.008	1.189	4.457
11.10	1.045A	6.127	1.932	-0.089	4.931	1.062	0.199	0.012	1.035	4.332
15.00	1.008A	6.124	1.932	-0.089	4.931	1.511	0.316	0.029	0.490	3.880
18.39	0.921A	6.141	1.932	-0.089	4.931	1.871	0.403	0.051	0.000	3.470
20.00	0.879A	6.150	1.932	-0.089	4.931	2.047	0.437	0.063	-0.233	3.271
25.00	0.627A	6.221	1.932	-0.089	4.931	2.536	0.525	0.105	-0.985	2.630
30.00	0.282A	6.332	1.932	-0.089	4.931	2.998	0.600	0.154	-1.754	1.958
35.00	0.066F	6.500	1.932	-0.089	4.931	3.423	0.658	0.209	-2.549	1.227
40.00	0.429F	6.737	1.932	-0.089	4.931	3.803	0.691	0.268	-3.362	0.443
42.72	0.638F	6.896	1.932	-0.089	4.931	3.974	0.698	0.301	-3.807	0.000
45.00	0.827F	7.042	1.932	-0.089	4.931	4.130	0.696	0.329	-4.173	-0.372
50.00	1.304F	7.424	1.932	-0.089	4.931	4.395	0.665	0.388	-4.964	-1.194
55.00	1.884F	7.902	1.932	-0.089	4.931	4.600	0.603	0.444	-5.722	-2.014
60.00	2.623F	8.523	1.932	-0.089	4.931	4.750	0.516	0.493	-6.439	-2.823
65.00	3.625F	9.375	1.932	-0.089	4.931	4.849	0.411	0.534	-7.111	-3.613
70.00	5.092F	10.629	1.932	-0.089	4.931	4.900	0.293	0.564	-7.732	-4.379

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

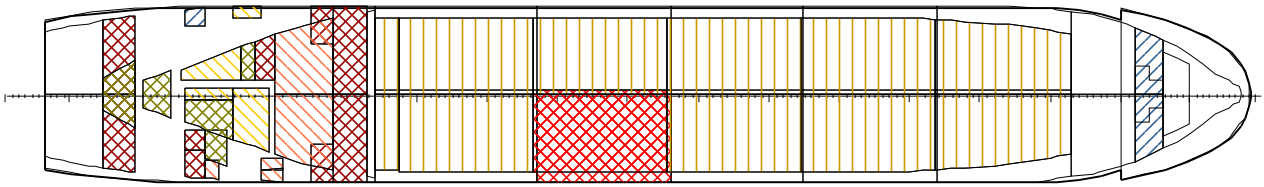
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.003	m	min 0.000	PASS	at completion of flooding
Angle of Heel	4.16S	deg	max 25.00	PASS	at completion of flooding
Stability Range	38.56	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.327	m	min 0.100	PASS	at 60.0 % of flooding
Area under 20 degrees range	0.0590	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.4 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4870.06	8.200	39936.2	-0.358	-1745.1	4.541	22114.3	3030.67
Fuel	376.57	-33.493	-12612.4	0.162	61.1	4.645	1749.0	390.72
Diesel	62.55	-31.786	-1988.3	1.173	73.4	1.473	92.1	200.57
Lub. Oil	31.74	-37.310	-1184.3	-0.764	-24.3	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.839	-1017.0	0.125	2.7	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8070.64	1.829	14763.6	-0.226	-1824.3	4.940	39865.5	3743.42
Outflow	527.01	-3.850	-2029.0	3.463	1825.1	4.534	2389.4	339.58
Inflow	592.36	-3.770	-2233.1	4.027	2385.4	3.104	1838.8	950.95

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8070.64	MT	TRANSVERSE METACENTRE	KM	6.776	m
DRAFT CORRESPONDING	Tcf	6.050	m	VERT. CENTER OF GRAVITY	KG	4.940	m
DRAFT F.P.	Tfp	5.626	m	METACENTRIC HEIGHT	GM	1.724	m
DRAFT A.P.	Tap	6.455	m	FREE SURFACE MOMENT	FSM	3743.42	MT m
DRAFT MEAN	Tms	6.040	m	FREE SURFACE CORRECTION	GGc	0.464	m
TRIM	trim	0.829	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.289	m
LONG. CENTER BUOYANCY	LCB	1.815	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.403	m
LONG. CENTER FLOTATION	LCF	-2.098	m +fwdMS	PROPELLER IMMERSION	P.I	117.4	%
MOMENT TO CHANGE TRIM	MCT	123.93	MT m / cm	AHEAD VISIBILITY	A.V	111.6	m
TONS PER CENTIMETRE	TPC	15.19	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.4 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.90	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.290	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.505	m	min	0.000	Stage 5 (DFLD_2S)	PASS
4	Angle of Protected Immersion	18.06	deg	min	1.90	Stage 5 (VOID_S)	PASS
5	Angle of Unprotected Immersion	43.47	deg	min	1.90	Stage 5 (DFLD_2S)	PASS
6	Range of Stability	41.56	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.461	m	min	0.100	Stage 2	PASS
8	GZ Area (20 deg range)	0.0823	m rad	min	0.0175	Stage 2	PASS

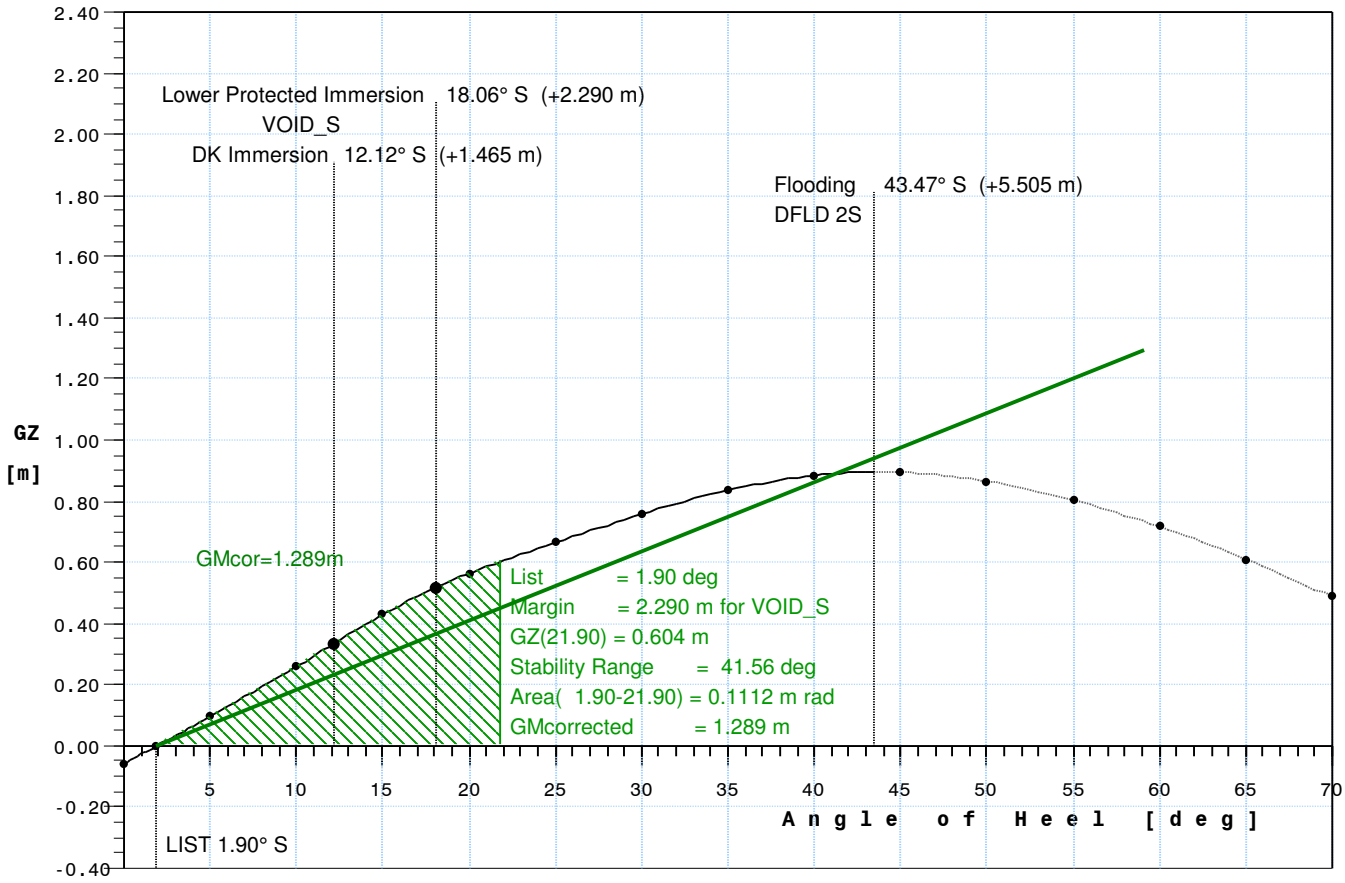
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
23	No.5 B.W.T.(S)	82.2	Flooded (0.95 perm)	175.53	171.25	-3.532	5.254	1.715
8	No.4 C.O.T.(S)	68.3	Flooded (0.95 perm)	416.82	406.66	-3.870	3.510	3.689
	Damage Inflow			592.36	577.91	-3.770	4.027	3.104

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.096	-3.159	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.091	3.191	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	-3.444	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	3.477	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	-3.446	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	3.479	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.864	-3.446	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.870	3.510	3.689	358.78	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	-3.446	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	3.479	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.427	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.460	4.535	61.34	15.0	1.0000
	Cargo Total			4870.06	8.200	-0.358	4.541	3030.67		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)	FLOODED						
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.4 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



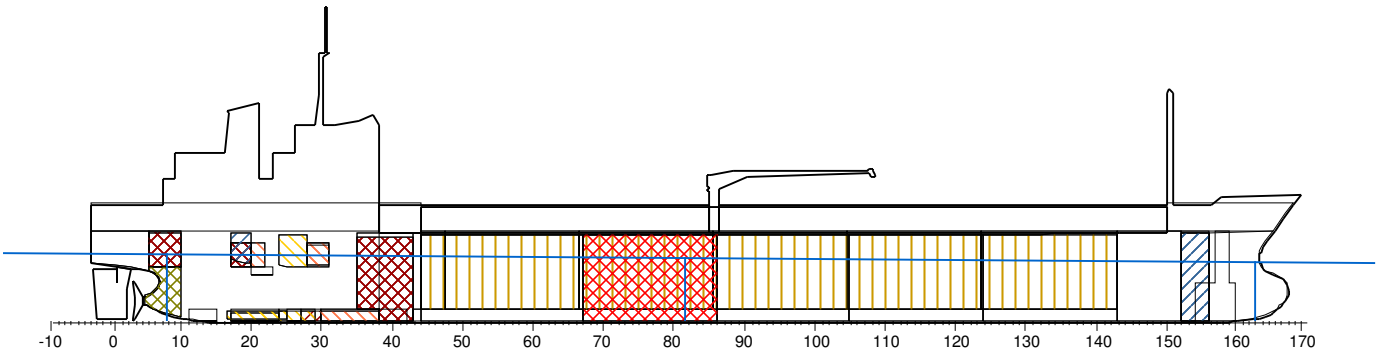
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.830A	6.031	1.829	-0.226	4.940	-0.289	-0.059	0.000	2.561	5.708
1.90	0.829A	6.040	1.829	-0.226	4.940	-0.062	0.000	0.000	2.290	5.505
5.00	0.816A	6.051	1.829	-0.226	4.940	0.309	0.097	0.003	1.851	5.170
10.00	0.765A	6.060	1.829	-0.226	4.940	0.911	0.259	0.018	1.145	4.614
12.12	0.733A	6.062	1.829	-0.226	4.940	1.166	0.333	0.029	0.848	4.373
15.00	0.688A	6.064	1.829	-0.226	4.940	1.517	0.429	0.048	0.442	4.037
18.06	0.601A	6.087	1.829	-0.226	4.940	1.856	0.516	0.073	0.000	3.661
20.00	0.544A	6.102	1.829	-0.226	4.940	2.077	0.563	0.092	-0.281	3.416
25.00	0.280A	6.184	1.829	-0.226	4.940	2.591	0.665	0.146	-1.018	2.763
30.00	0.082F	6.305	1.829	-0.226	4.940	3.082	0.758	0.208	-1.758	2.083
35.00	0.468F	6.478	1.829	-0.226	4.940	3.539	0.836	0.277	-2.520	1.349
40.00	0.876F	6.720	1.829	-0.226	4.940	3.943	0.884	0.353	-3.303	0.564
43.47	1.189F	6.931	1.829	-0.226	4.940	4.175	0.895	0.407	-3.849	0.000
45.00	1.339F	7.033	1.829	-0.226	4.940	4.286	0.894	0.431	-4.086	-0.250
50.00	1.895F	7.421	1.829	-0.226	4.940	4.560	0.865	0.508	-4.847	-1.072
55.00	2.575F	7.905	1.829	-0.226	4.940	4.772	0.803	0.581	-5.575	-1.890
60.00	3.446F	8.531	1.829	-0.226	4.940	4.928	0.716	0.647	-6.262	-2.696
65.00	4.631F	9.387	1.829	-0.226	4.940	5.031	0.610	0.705	-6.905	-3.483
70.00	6.365F	10.648	1.829	-0.226	4.940	5.084	0.488	0.753	-7.497	-4.246

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

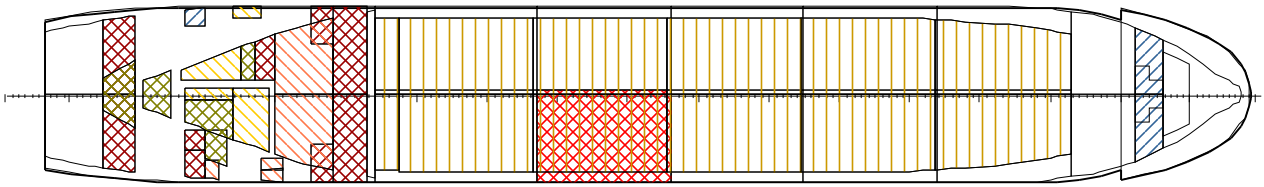
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.290	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.90S	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.56	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.461	m	min 0.100	PASS	at 40.0 % of flooding
Area under 20 degrees range	0.0823	m rad	min 0.0175	PASS	at 40.0 % of flooding

No.5 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.022	37900.0	0.027	145.6	4.541	24506.3	3370.25
Fuel	376.57	-33.493	-12612.4	0.170	64.1	4.645	1749.1	390.72
Diesel	62.55	-31.786	-1988.3	1.184	74.1	1.473	92.2	200.57
Lub. Oil	31.74	-37.311	-1184.3	-0.755	-24.0	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.837	-1017.0	0.133	2.9	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	178.54	-3.533	-630.7	5.293	944.9	1.794	320.3	592.18

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.810	m
DRAFT CORRESPONDING	Tcf	6.126	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.689	m	METACENTRIC HEIGHT	GM	1.895	m
DRAFT A.P.	Tap	6.527	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.108	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.838	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.420	m
LONG. CENTER BUOYANCY	LCB	1.468	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.283	m +fwdMS	PROPELLER IMMERSION	P.I	119.3	%
MOMENT TO CHANGE TRIM	MCT	124.90	MT m / cm	AHEAD VISIBILITY	A.V	110.6	m
TONS PER CENTIMETRE	TPC	16.07	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.5 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.14	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.049	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.305	m	min	0.000	Stage 5 (DFLD_2S)	PASS
4	Angle of Protected Immersion	17.92	deg	min	3.14	Stage 5 (VOID_S)	PASS
5	Angle of Unprotected Immersion	43.69	deg	min	3.14	Stage 5 (DFLD_2S)	PASS
6	Range of Stability	40.56	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.449	m	min	0.100	Stage 3	PASS
8	GZ Area (20 deg range)	0.0815	m rad	min	0.0175	Stage 3	PASS

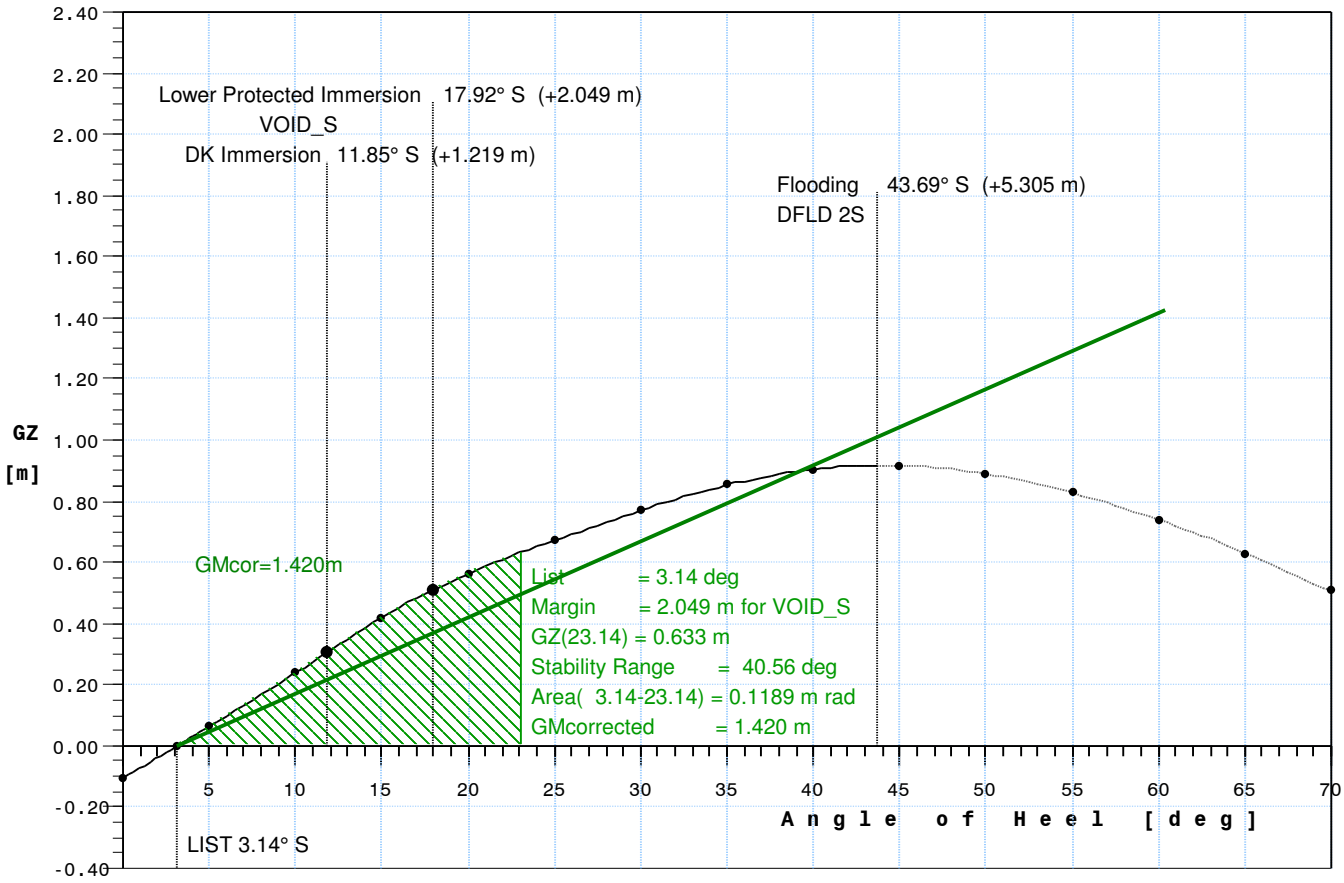
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
23	No.5 B.W.T.(S)	83.6	Flooded (0.95 perm)	178.54	174.18	-3.533	5.293	1.794
	Damage Inflow			178.54	174.18	-3.533	5.293	1.794

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.097	-3.149	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.090	3.201	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	-3.433	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	3.487	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	-3.436	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	3.490	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.864	-3.436	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.864	3.490	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	-3.436	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	3.490	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.416	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.470	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.022	0.027	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)	FLOODED						
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.5 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



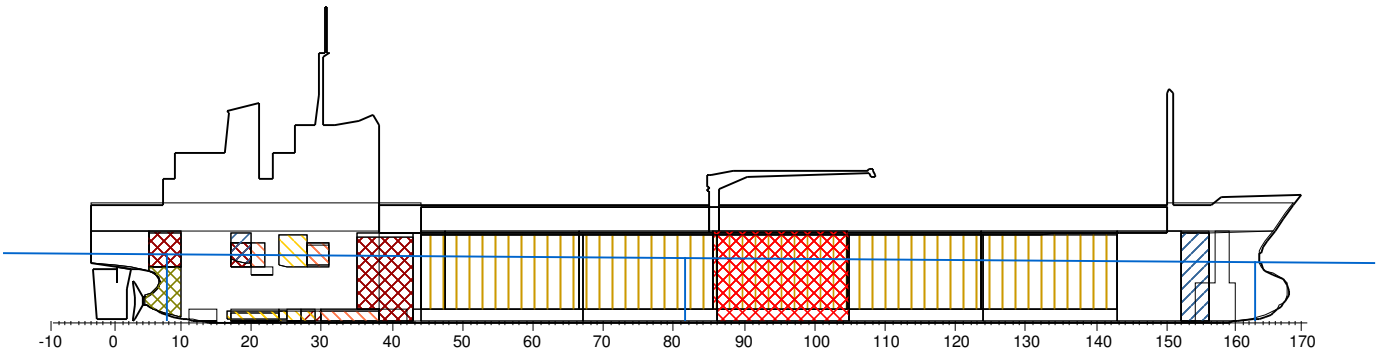
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.845A	6.106	1.481	0.000	4.915	-0.106	-0.106	0.000	2.483	5.628
3.14	0.838A	6.108	1.481	0.000	4.915	0.269	0.000	0.000	2.049	5.305
5.00	0.827A	6.108	1.481	0.000	4.915	0.492	0.064	0.001	1.791	5.109
10.00	0.774A	6.102	1.481	0.000	4.915	1.092	0.238	0.014	1.102	4.570
11.85	0.745A	6.098	1.481	0.000	4.915	1.311	0.307	0.023	0.848	4.366
15.00	0.694A	6.092	1.481	0.000	4.915	1.691	0.419	0.043	0.414	4.008
17.92	0.608A	6.105	1.481	0.000	4.915	2.011	0.509	0.067	0.000	3.658
20.00	0.545A	6.115	1.481	0.000	4.915	2.244	0.563	0.086	-0.294	3.404
25.00	0.278A	6.184	1.481	0.000	4.915	2.749	0.672	0.140	-1.017	2.763
30.00	0.085F	6.293	1.481	0.000	4.915	3.228	0.770	0.203	-1.747	2.094
35.00	0.473F	6.455	1.481	0.000	4.915	3.672	0.853	0.274	-2.500	1.370
40.00	0.887F	6.684	1.481	0.000	4.915	4.063	0.904	0.351	-3.274	0.595
43.69	1.224F	6.899	1.481	0.000	4.915	4.301	0.918	0.410	-3.848	0.000
45.00	1.353F	6.982	1.481	0.000	4.915	4.393	0.917	0.431	-4.048	-0.211
50.00	1.913F	7.354	1.481	0.000	4.915	4.654	0.889	0.510	-4.801	-1.025
55.00	2.597F	7.821	1.481	0.000	4.915	4.853	0.827	0.585	-5.523	-1.837
60.00	3.472F	8.428	1.481	0.000	4.915	4.995	0.739	0.653	-6.208	-2.640
65.00	4.661F	9.260	1.481	0.000	4.915	5.084	0.630	0.713	-6.848	-3.425
70.00	6.400F	10.485	1.481	0.000	4.915	5.125	0.506	0.763	-7.439	-4.187

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

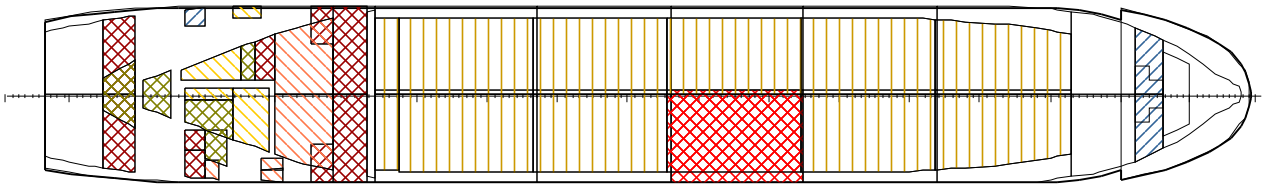
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.049	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.14S	deg	max 25.00	PASS	at completion of flooding
Stability Range	40.56	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.449	m	min 0.100	PASS	at 60.0 % of flooding
Area under 20 degrees range	0.0815	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.6 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4870.06	6.865	33432.4	-0.359	-1750.8	4.541	22114.1	3030.67
Fuel	376.57	-33.493	-12612.3	0.161	60.7	4.645	1749.0	390.72
Diesel	62.55	-31.786	-1988.3	1.172	73.3	1.473	92.1	200.57
Lub. Oil	31.74	-37.310	-1184.3	-0.766	-24.3	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.839	-1017.0	0.125	2.7	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8070.64	1.023	8255.0	-0.226	-1824.3	4.940	39865.5	3743.42
Outflow	527.01	8.500	4479.6	3.463	1825.1	4.534	2389.4	339.58
Inflow	582.16	8.582	4996.1	4.024	2342.9	3.051	1776.1	950.95

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8070.64	MT	TRANSVERSE METACENTRE	KM	6.769	m
DRAFT CORRESPONDING	Tcf	6.049	m	VERT. CENTER OF GRAVITY	KG	4.940	m
DRAFT F.P.	Tfp	5.651	m	METACENTRIC HEIGHT	GM	1.718	m
DRAFT A.P.	Tap	6.420	m	FREE SURFACE MOMENT	FSM	3743.42	MT m
DRAFT MEAN	Tms	6.035	m	FREE SURFACE CORRECTION	GGc	0.464	m
TRIM	trim	0.769	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.282	m
LONG. CENTER BUOYANCY	LCB	1.010	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.403	m
LONG. CENTER FLOTATION	LCF	-2.838	m +fwdMS	PROPELLER IMMERSION	P.I	116.5	%
MOMENT TO CHANGE TRIM	MCT	122.49	MT m / cm	AHEAD VISIBILITY	A.V	110.0	m
TONS PER CENTIMETRE	TPC	15.17	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.6 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.77	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.328	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.543	m	min	0.000	Stage 5 (DFLD 2S)	PASS
4	Angle of Protected Immersion	18.34	deg	min	1.77	Stage 5 (VOID_S)	PASS
5	Angle of Unprotected Immersion	44.00	deg	min	1.77	Stage 5 (DFLD 2S)	PASS
6	Range of Stability	42.23	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.462	m	min	0.100	Stage 2	PASS
8	GZ Area (20 deg range)	0.0823	m rad	min	0.0175	Stage 2	PASS

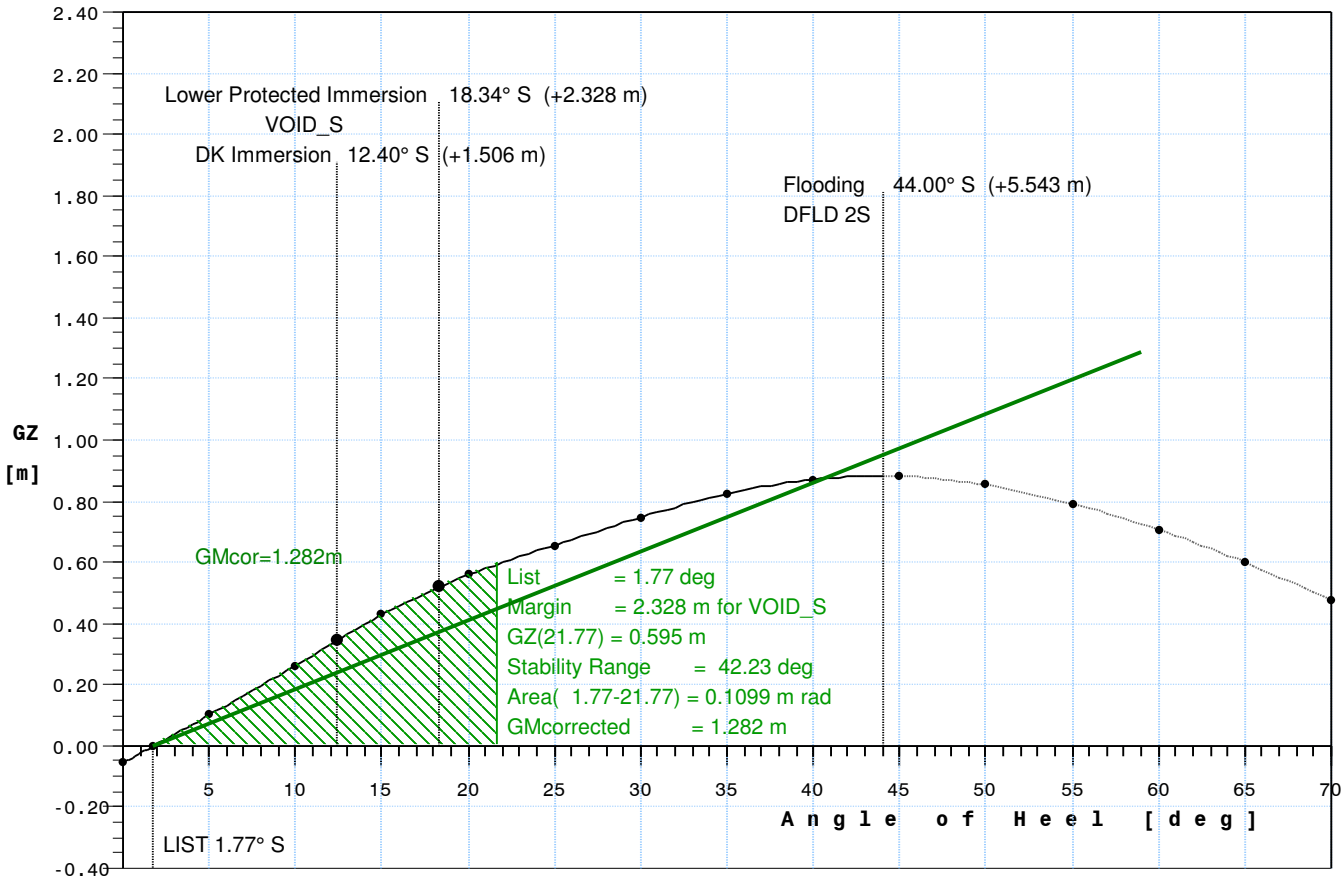
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
21	No.4 B.W.T.(S)	81.6	Flooded (0.95 perm)	174.10	169.85	8.818	5.235	1.677
6	No.3 C.O.T.(S)	66.8	Flooded (0.95 perm)	408.06	398.11	8.481	3.508	3.637
	Damage Inflow			582.16	567.96	8.582	4.024	3.051

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.097	-3.160	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.092	3.190	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	-3.445	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	3.476	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.487	-3.448	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.481	3.508	3.637	358.78	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.863	-3.448	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.863	3.478	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.213	-3.448	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.213	3.478	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.428	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.459	4.535	61.34	15.0	1.0000
	Cargo Total			4870.06	6.865	-0.359	4.541	3030.67		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)	FLOODED						
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.6 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



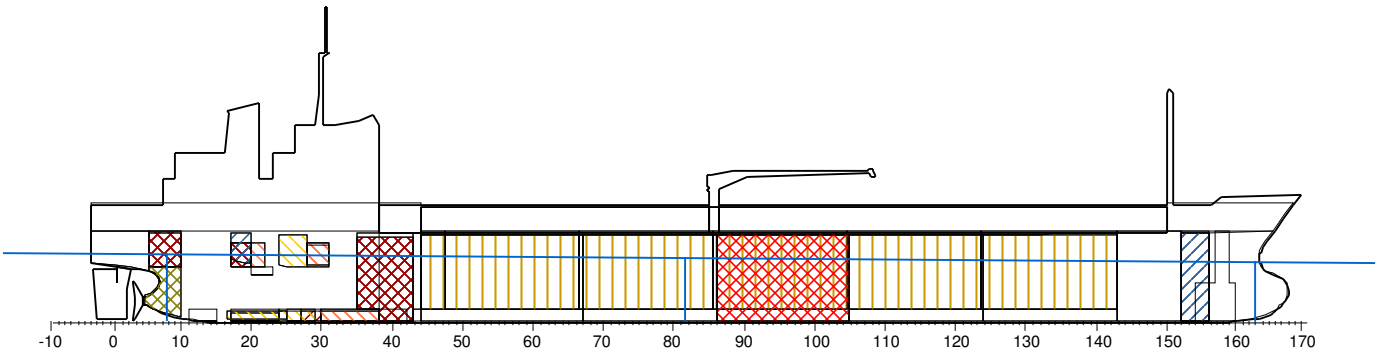
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.786A	6.026	1.023	-0.226	4.940	-0.284	-0.054	0.000	2.576	5.726
1.77	0.769A	6.035	1.023	-0.226	4.940	-0.074	0.000	0.000	2.328	5.543
5.00	0.732A	6.047	1.023	-0.226	4.940	0.312	0.100	0.003	1.874	5.200
10.00	0.645A	6.057	1.023	-0.226	4.940	0.914	0.261	0.019	1.176	4.655
12.40	0.590A	6.060	1.023	-0.226	4.940	1.200	0.343	0.031	0.843	4.386
15.00	0.529A	6.063	1.023	-0.226	4.940	1.517	0.429	0.049	0.480	4.087
18.34	0.408A	6.090	1.023	-0.226	4.940	1.884	0.520	0.076	0.000	3.681
20.00	0.346A	6.104	1.023	-0.226	4.940	2.072	0.558	0.092	-0.239	3.473
25.00	0.048A	6.190	1.023	-0.226	4.940	2.581	0.655	0.145	-0.973	2.824
30.00	0.344F	6.313	1.023	-0.226	4.940	3.069	0.746	0.206	-1.711	2.147
35.00	0.773F	6.487	1.023	-0.226	4.940	3.526	0.824	0.275	-2.469	1.421
40.00	1.234F	6.730	1.023	-0.226	4.940	3.930	0.871	0.349	-3.246	0.644
44.00	1.652F	6.976	1.023	-0.226	4.940	4.199	0.883	0.411	-3.869	0.000
45.00	1.765F	7.044	1.023	-0.226	4.940	4.272	0.882	0.426	-4.022	-0.162
50.00	2.400F	7.433	1.023	-0.226	4.940	4.548	0.853	0.502	-4.778	-0.977
55.00	3.174F	7.918	1.023	-0.226	4.940	4.761	0.792	0.574	-5.501	-1.788
60.00	4.164F	8.546	1.023	-0.226	4.940	4.917	0.706	0.640	-6.185	-2.588
65.00	5.510F	9.406	1.023	-0.226	4.940	5.021	0.600	0.697	-6.824	-3.372
70.00	7.479F	10.673	1.023	-0.226	4.940	5.075	0.479	0.744	-7.415	-4.134

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

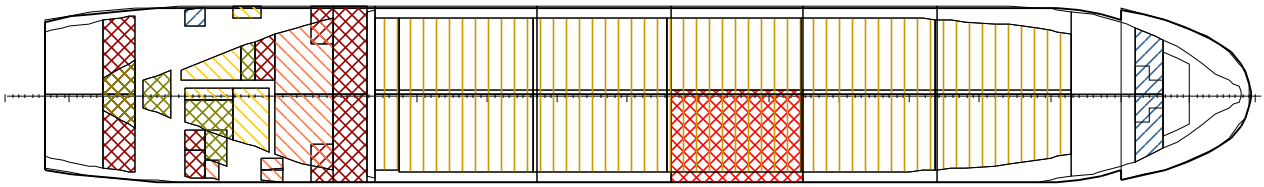
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.328	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.77S	deg	max 25.00	PASS	at completion of flooding
Stability Range	42.23	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.462	m	min 0.100	PASS	at 40.0 % of flooding
Area under 20 degrees range	0.0823	m rad	min 0.0175	PASS	at 40.0 % of flooding

No.7 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.025	37915.4	0.027	145.6	4.541	24506.2	3370.25
Fuel	376.57	-33.493	-12612.2	0.170	64.1	4.645	1749.1	390.72
Diesel	62.55	-31.784	-1988.2	1.184	74.1	1.473	92.2	200.57
Lub. Oil	31.74	-37.309	-1184.3	-0.755	-24.0	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.835	-1016.9	0.133	2.9	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	177.47	8.819	1565.1	5.279	936.8	1.766	313.3	592.18

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.797	m
DRAFT CORRESPONDING	Tcf	6.125	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.781	m	METACENTRIC HEIGHT	GM	1.883	m
DRAFT A.P.	Tap	6.441	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.111	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.660	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.408	m
LONG. CENTER BUOYANCY	LCB	1.470	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.249	m +fwdMS	PROPELLER IMMERSION	P.I	117.1	%
MOMENT TO CHANGE TRIM	MCT	123.94	MT m / cm	AHEAD VISIBILITY	A.V	105.7	m
TONS PER CENTIMETRE	TPC	16.04	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.7 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.13	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.088	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.359	m	min	0.000	Stage 5 (DFLD_2S)	PASS
4	Angle of Protected Immersion	18.24	deg	min	3.13	Stage 5 (VOID_S)	PASS
5	Angle of Unprotected Immersion	44.14	deg	min	3.13	Stage 5 (DFLD_2S)	PASS
6	Range of Stability	41.00	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.445	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0809	m rad	min	0.0175	Stage 3	PASS

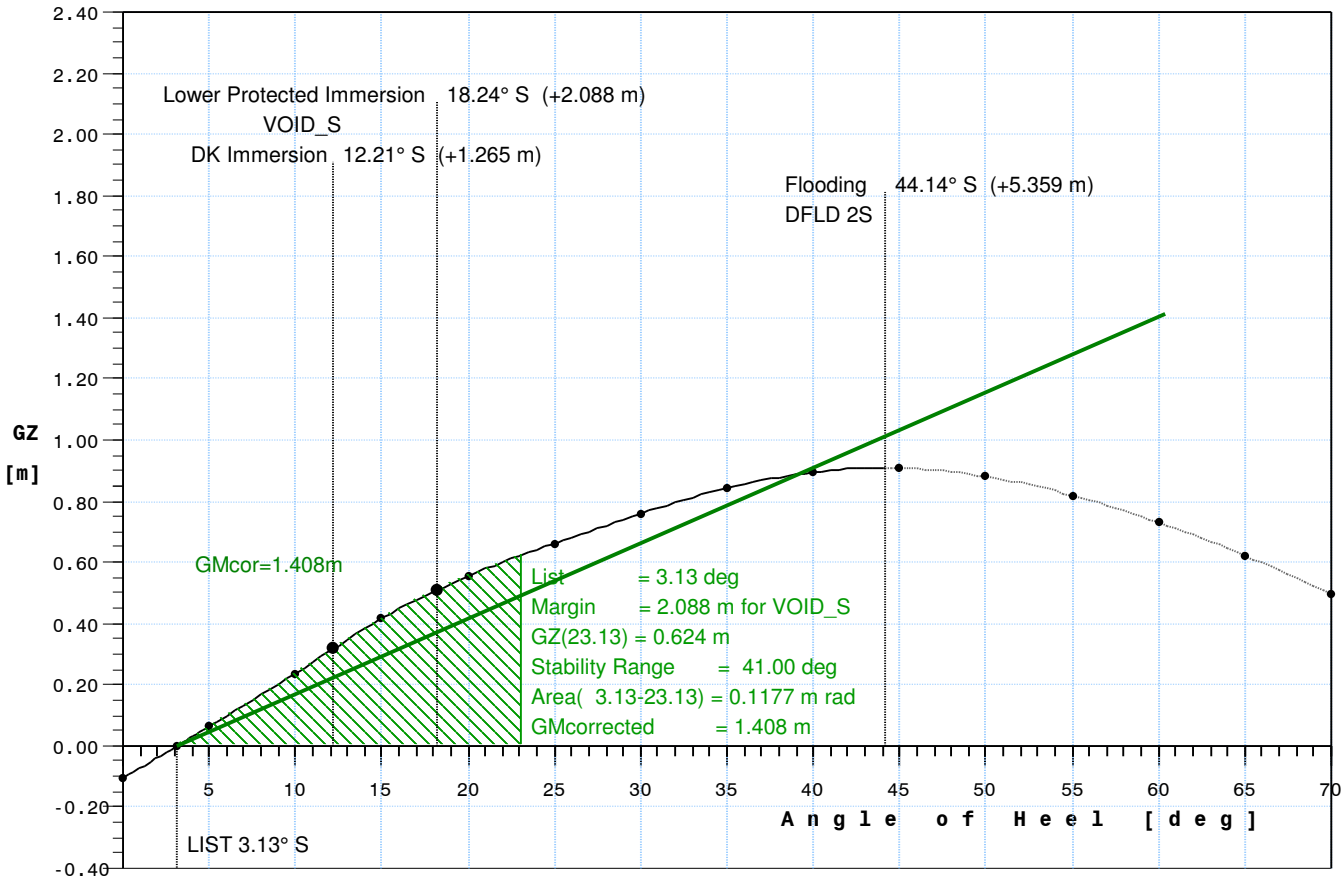
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
21	No.4 B.W.T.(S)	83.1	Flooded (0.95 perm)	177.47	173.14	8.819	5.279	1.766
	Damage Inflow			177.47	173.14	8.819	5.279	1.766

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.100	-3.149	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.093	3.201	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.829	-3.433	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.829	3.487	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.489	-3.436	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.489	3.490	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.861	-3.436	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.861	3.490	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.211	-3.436	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.211	3.490	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.416	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.470	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.025	0.027	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)	FLOODED						
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.7 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



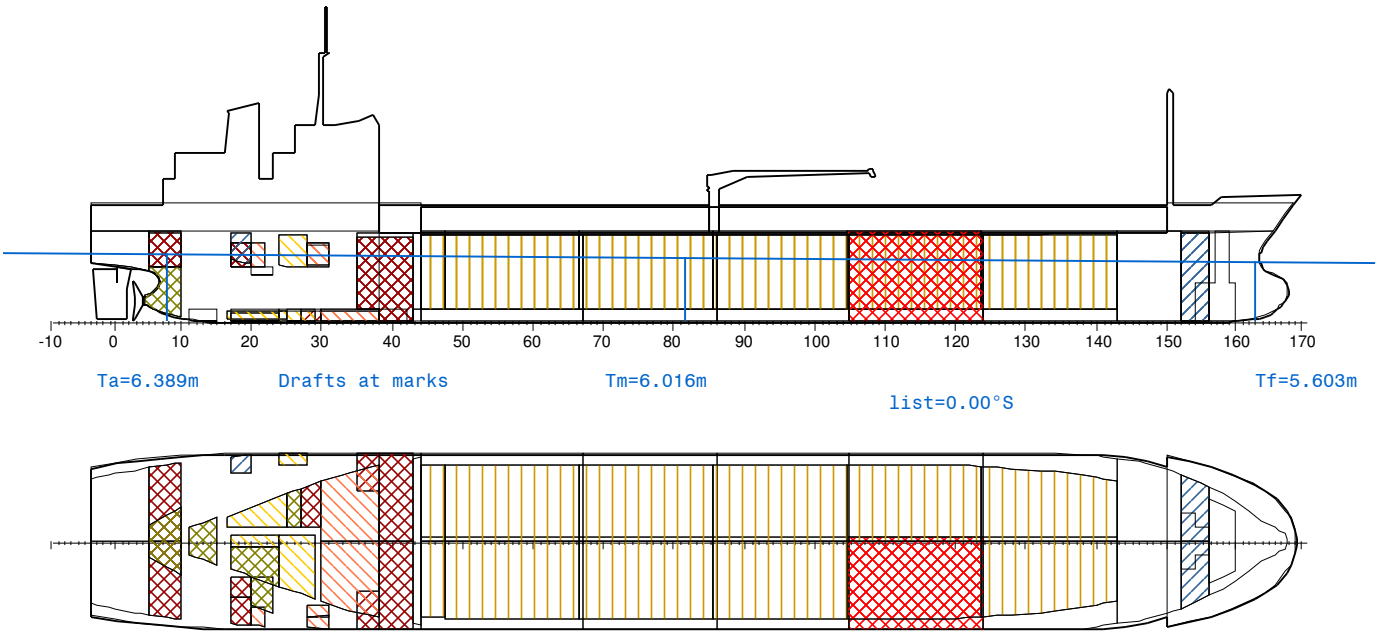
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.674A	6.109	1.481	0.000	4.915	-0.105	-0.105	0.000	2.520	5.680
3.13	0.660A	6.111	1.481	0.000	4.915	0.269	0.000	0.000	2.088	5.359
5.00	0.646A	6.111	1.481	0.000	4.915	0.492	0.063	0.001	1.831	5.164
10.00	0.583A	6.105	1.481	0.000	4.915	1.090	0.237	0.014	1.144	4.627
12.21	0.542A	6.100	1.481	0.000	4.915	1.352	0.318	0.025	0.841	4.384
15.00	0.489A	6.095	1.481	0.000	4.915	1.688	0.416	0.043	0.458	4.068
18.24	0.385A	6.111	1.481	0.000	4.915	2.040	0.512	0.069	0.000	3.681
20.00	0.326A	6.119	1.481	0.000	4.915	2.237	0.556	0.085	-0.250	3.465
25.00	0.049A	6.190	1.481	0.000	4.915	2.739	0.662	0.139	-0.974	2.824
30.00	0.324F	6.299	1.481	0.000	4.915	3.217	0.760	0.201	-1.703	2.154
35.00	0.737F	6.461	1.481	0.000	4.915	3.662	0.843	0.271	-2.453	1.434
40.00	1.182F	6.689	1.481	0.000	4.915	4.054	0.895	0.347	-3.224	0.663
44.14	1.600F	6.933	1.481	0.000	4.915	4.323	0.909	0.412	-3.864	0.000
45.00	1.695F	6.988	1.481	0.000	4.915	4.384	0.908	0.426	-3.995	-0.139
50.00	2.310F	7.361	1.481	0.000	4.915	4.646	0.881	0.504	-4.745	-0.949
55.00	3.063F	7.829	1.481	0.000	4.915	4.845	0.819	0.579	-5.465	-1.757
60.00	4.030F	8.439	1.481	0.000	4.915	4.987	0.731	0.646	-6.147	-2.556
65.00	5.344F	9.274	1.481	0.000	4.915	5.077	0.623	0.706	-6.785	-3.339
70.00	7.266F	10.505	1.481	0.000	4.915	5.118	0.499	0.755	-7.375	-4.099

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.088	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.13S	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.00	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.445	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0809	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.8 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4870.61	5.532	26944.0	-0.360	-1752.6	4.541	22116.8	3032.02
Fuel	376.57	-33.493	-12612.3	0.160	60.4	4.644	1749.0	390.72
Diesel	62.55	-31.785	-1988.2	1.170	73.2	1.473	92.1	200.57
Lub. Oil	31.74	-37.309	-1184.3	-0.767	-24.4	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.839	-1017.0	0.124	2.7	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8071.19	0.218	1761.1	-0.226	-1820.7	4.940	39868.0	3744.77
Outflow	526.46	20.844	10973.5	3.460	1821.5	4.534	2386.9	338.24
Inflow	572.66	20.929	11985.4	4.020	2302.0	3.006	1721.2	944.96

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8071.19	MT	TRANSVERSE METACENTRE	KM	6.764	m
DRAFT CORRESPONDING	Tcf	6.049	m	VERT. CENTER OF GRAVITY	KG	4.940	m
DRAFT F.P.	Tfp	5.667	m	METACENTRIC HEIGHT	GM	1.712	m
DRAFT A.P.	Tap	6.394	m	FREE SURFACE MOMENT	FSM	3744.77	MT m
DRAFT MEAN	Tms	6.031	m	FREE SURFACE CORRECTION	GGc	0.464	m
TRIM	trim	0.727	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.277	m
LONG. CENTER BUOYANCY	LCB	0.206	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.404	m
LONG. CENTER FLOTATION	LCF	-3.595	m +fwdMS	PROPELLER IMMERSION	P.I	115.9	%
MOMENT TO CHANGE TRIM	MCT	118.16	MT m / cm	AHEAD VISIBILITY	A.V	108.9	m
TONS PER CENTIMETRE	TPC	15.16	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.8 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.65	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.359	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.573	m	min	0.000	Stage 5 (DFLD_2S)	PASS
4	Angle of Protected Immersion	18.60	deg	min	1.65	Stage 5 (VOID_S)	PASS
5	Angle of Unprotected Immersion	44.55	deg	min	1.65	Stage 5 (DFLD_2S)	PASS
6	Range of Stability	42.90	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.462	m	min	0.100	Stage 2	PASS
8	GZ Area (20 deg range)	0.0825	m rad	min	0.0175	Stage 2	PASS

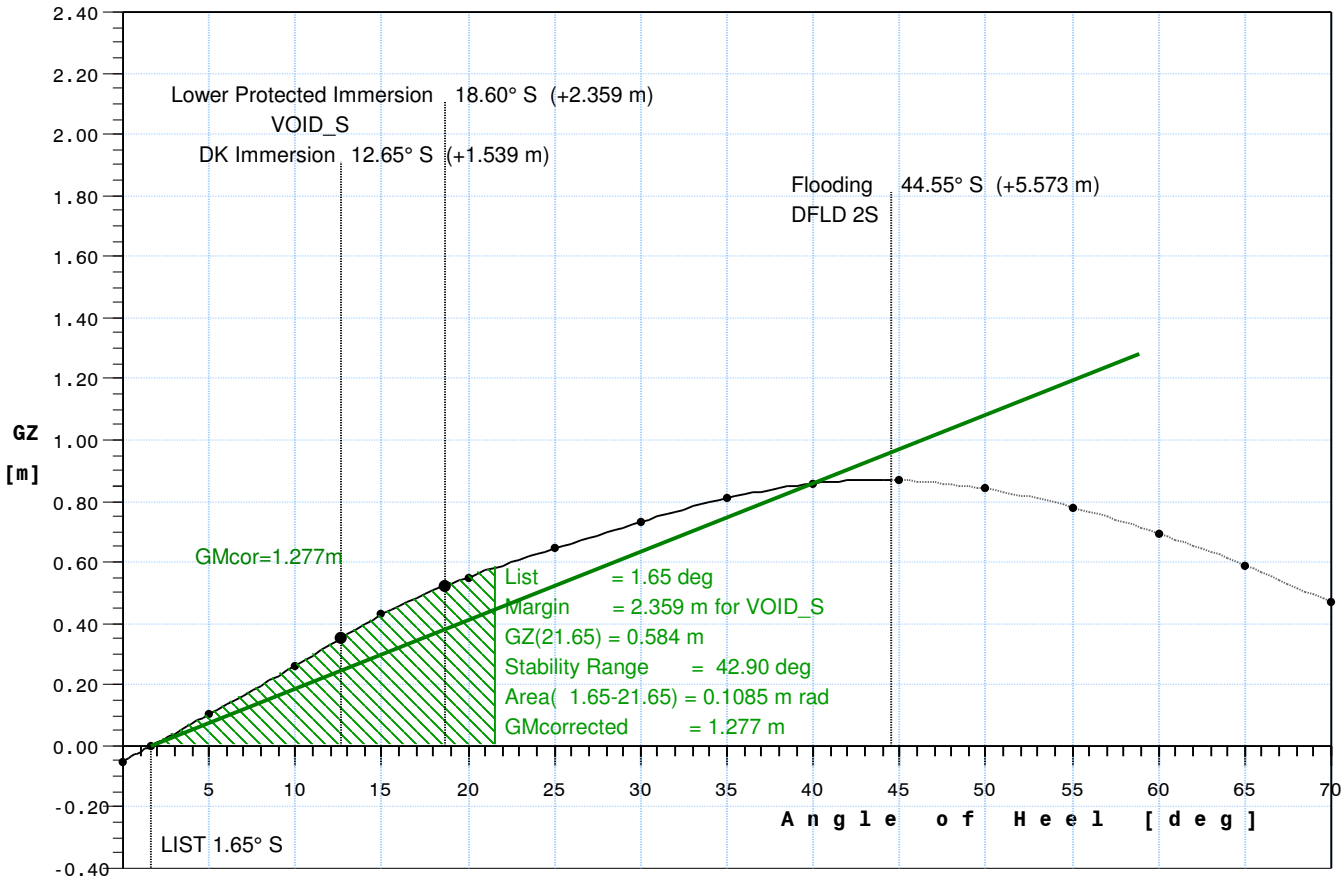
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
19	No.3 B.W.T.(S)	80.9	Flooded (0.95 perm)	172.88	168.66	21.182	5.216	1.657
4	No.2 C.O.T.(S)	65.5	Flooded (0.95 perm)	399.78	390.03	20.820	3.502	3.589
	Damage Inflow			572.66	558.70	20.929	4.020	3.006

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.097	-3.161	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.093	3.189	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.828	-3.446	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.820	3.502	3.589	357.36	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.488	-3.449	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.488	3.477	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.862	-3.449	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.862	3.477	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.212	-3.449	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.212	3.477	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.429	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.458	4.535	61.34	15.0	1.0000
	Cargo Total			4870.61	5.532	-0.360	4.541	3032.02		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)	FLOODED						
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.8 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)



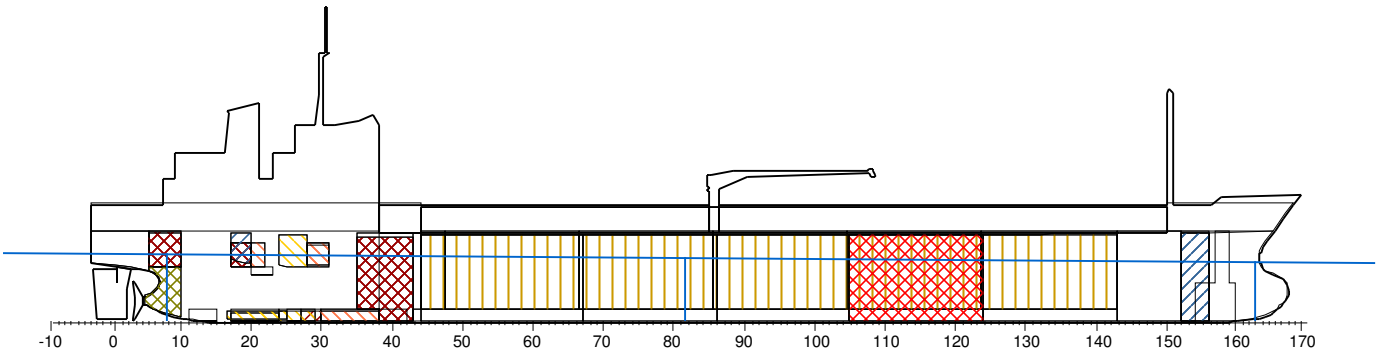
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.760A	6.022	0.218	-0.226	4.940	-0.279	-0.050	0.000	2.587	5.740
1.65	0.727A	6.031	0.218	-0.226	4.940	-0.083	0.000	0.000	2.359	5.573
5.00	0.663A	6.044	0.218	-0.226	4.940	0.316	0.103	0.003	1.894	5.225
10.00	0.535A	6.056	0.218	-0.226	4.940	0.915	0.262	0.019	1.203	4.690
12.65	0.452A	6.060	0.218	-0.226	4.940	1.231	0.352	0.033	0.838	4.399
15.00	0.376A	6.064	0.218	-0.226	4.940	1.516	0.428	0.049	0.514	4.133
18.60	0.211A	6.096	0.218	-0.226	4.940	1.909	0.522	0.079	0.000	3.701
20.00	0.145A	6.108	0.218	-0.226	4.940	2.065	0.552	0.092	-0.199	3.529
25.00	0.192F	6.199	0.218	-0.226	4.940	2.569	0.644	0.144	-0.930	2.886
30.00	0.616F	6.324	0.218	-0.226	4.940	3.055	0.732	0.205	-1.665	2.213
35.00	1.090F	6.499	0.218	-0.226	4.940	3.511	0.809	0.272	-2.417	1.494
40.00	1.606F	6.742	0.218	-0.226	4.940	3.915	0.857	0.345	-3.188	0.725
44.55	2.148F	7.026	0.218	-0.226	4.940	4.224	0.868	0.414	-3.889	0.000
45.00	2.206F	7.057	0.218	-0.226	4.940	4.257	0.868	0.420	-3.958	-0.072
50.00	2.915F	7.446	0.218	-0.226	4.940	4.534	0.840	0.495	-4.708	-0.880
55.00	3.777F	7.931	0.218	-0.226	4.940	4.748	0.781	0.566	-5.426	-1.685
60.00	4.887F	8.563	0.218	-0.226	4.940	4.906	0.695	0.631	-6.107	-2.482
65.00	6.394F	9.428	0.218	-0.226	4.940	5.010	0.590	0.687	-6.745	-3.263
70.00	8.598F	10.703	0.218	-0.226	4.940	5.065	0.470	0.733	-7.334	-4.022

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

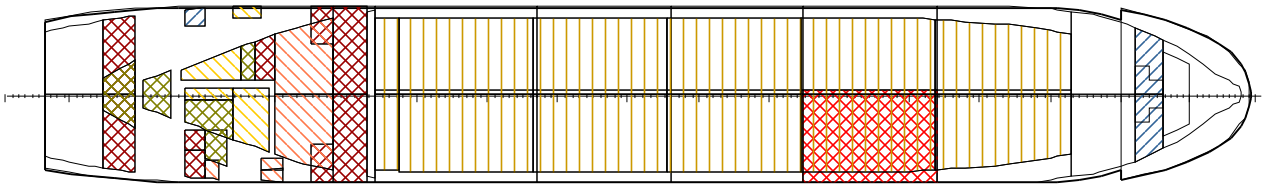
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.359	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.65S	deg	max 25.00	PASS	at completion of flooding
Stability Range	42.90	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.462	m	min 0.100	PASS	at 40.0 % of flooding
Area under 20 degrees range	0.0825	m rad	min 0.0175	PASS	at 40.0 % of flooding

No.9 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.028	37931.0	0.027	146.2	4.541	24506.2	3370.25
Fuel	376.57	-33.492	-12612.0	0.170	64.1	4.645	1749.1	390.72
Diesel	62.55	-31.782	-1988.1	1.184	74.1	1.473	92.2	200.57
Lub. Oil	31.74	-37.307	-1184.2	-0.755	-24.0	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.834	-1016.9	0.133	2.9	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	177.05	21.185	3750.9	5.272	933.4	1.765	312.5	587.60

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.784	m
DRAFT CORRESPONDING	Tcf	6.125	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.873	m	METACENTRIC HEIGHT	GM	1.869	m
DRAFT A.P.	Tap	6.356	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.114	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.482	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.394	m
LONG. CENTER BUOYANCY	LCB	1.473	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.210	m +fwdMS	PROPELLER IMMERSION	P.I	114.9	%
MOMENT TO CHANGE TRIM	MCT	122.61	MT m / cm	AHEAD VISIBILITY	A.V	101.0	m
TONS PER CENTIMETRE	TPC	16.00	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.9 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.14	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.126	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.411	m	min	0.000	Stage 5 (DFLD 2S)	PASS
4	Angle of Protected Immersion	18.55	deg	min	3.14	Stage 5 (VOID_S)	PASS
5	Angle of Unprotected Immersion	44.58	deg	min	3.14	Stage 5 (DFLD 2S)	PASS
6	Range of Stability	41.44	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.440	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0805	m rad	min	0.0175	Stage 3	PASS

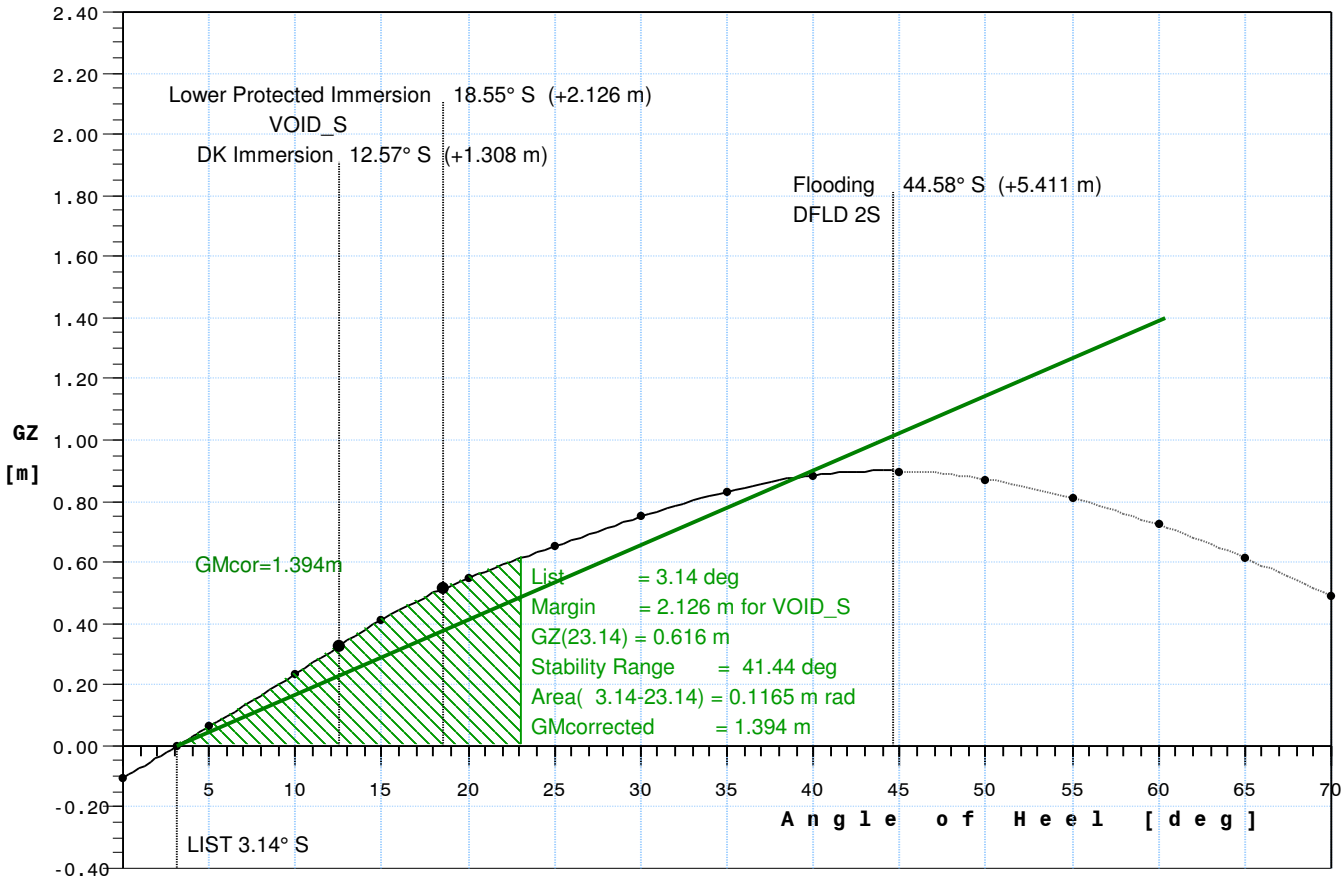
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
19	No.3 B.W.T.(S)	82.8	Flooded (0.95 perm)	177.05	172.73	21.185	5.272	1.765
	Damage Inflow			177.05	172.73	21.185	5.272	1.765

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.103	-3.148	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.096	3.201	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.832	-3.433	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.832	3.487	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.492	-3.436	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.492	3.490	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.858	-3.436	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.858	3.490	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.208	-3.436	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.208	3.490	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.416	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.470	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.028	0.027	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)	FLOODED						
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.9 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



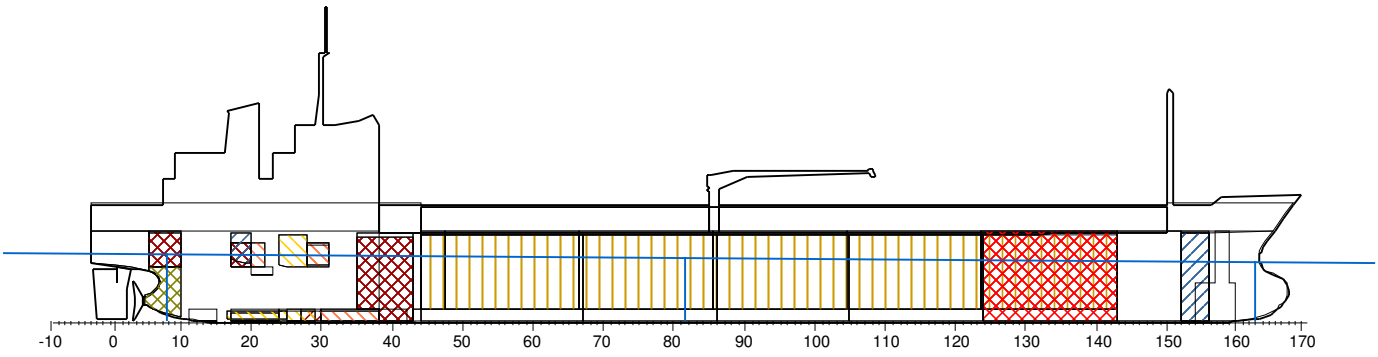
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.502A	6.112	1.481	0.000	4.915	-0.105	-0.105	0.000	2.557	5.731
3.14	0.482A	6.114	1.481	0.000	4.915	0.269	0.000	0.000	2.126	5.411
5.00	0.465A	6.114	1.481	0.000	4.915	0.491	0.062	0.001	1.870	5.218
10.00	0.391A	6.108	1.481	0.000	4.915	1.088	0.235	0.014	1.185	4.685
12.57	0.335A	6.103	1.481	0.000	4.915	1.392	0.328	0.027	0.835	4.403
15.00	0.282A	6.098	1.481	0.000	4.915	1.684	0.412	0.042	0.502	4.129
18.55	0.157A	6.117	1.481	0.000	4.915	2.069	0.514	0.071	0.000	3.703
20.00	0.105A	6.124	1.481	0.000	4.915	2.230	0.549	0.085	-0.205	3.526
25.00	0.183F	6.196	1.481	0.000	4.915	2.729	0.652	0.137	-0.930	2.885
30.00	0.565F	6.306	1.481	0.000	4.915	3.206	0.749	0.198	-1.660	2.214
35.00	1.002F	6.467	1.481	0.000	4.915	3.651	0.832	0.267	-2.408	1.498
40.00	1.480F	6.695	1.481	0.000	4.915	4.044	0.885	0.343	-3.175	0.730
44.58	1.989F	6.968	1.481	0.000	4.915	4.344	0.899	0.414	-3.879	0.000
45.00	2.039F	6.995	1.481	0.000	4.915	4.374	0.898	0.421	-3.942	-0.066
50.00	2.709F	7.369	1.481	0.000	4.915	4.636	0.871	0.498	-4.690	-0.872
55.00	3.532F	7.839	1.481	0.000	4.915	4.836	0.810	0.572	-5.407	-1.677
60.00	4.592F	8.451	1.481	0.000	4.915	4.979	0.722	0.639	-6.087	-2.473
65.00	6.031F	9.291	1.481	0.000	4.915	5.069	0.615	0.697	-6.723	-3.254
70.00	8.136F	10.527	1.481	0.000	4.915	5.110	0.492	0.746	-7.312	-4.012

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

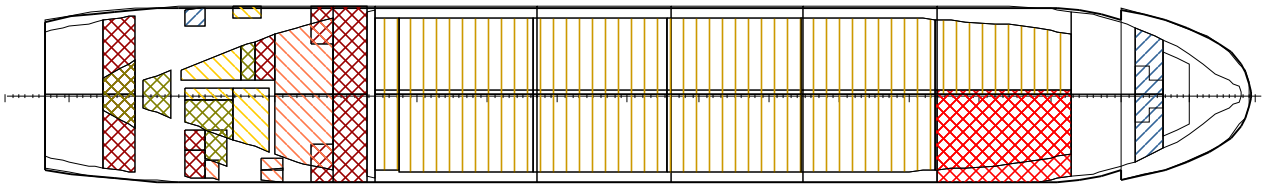
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.126	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.14S	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.44	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.440	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0805	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.10 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4902.59	4.395	21548.1	-0.307	-1502.9	4.537	22244.6	3103.44
Fuel	376.57	-33.493	-12612.2	0.160	60.2	4.644	1749.0	390.72
Diesel	62.55	-31.785	-1988.2	1.169	73.1	1.473	92.1	200.57
Lub. Oil	31.74	-37.309	-1184.3	-0.768	-24.4	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.839	-1017.0	0.124	2.7	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8103.16	-0.449	-3637.0	-0.194	-1569.2	4.936	39996.2	3816.19
Outflow	494.49	33.108	16371.6	3.175	1569.9	4.568	2258.6	266.81
Inflow	538.24	33.209	17874.4	3.774	2031.2	3.036	1634.4	728.13

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8103.16	MT	TRANSVERSE METACENTRE	KM	6.760	m
DRAFT CORRESPONDING	Tcf	6.052	m	VERT. CENTER OF GRAVITY	KG	4.936	m
DRAFT F.P.	Tfp	5.688	m	METACENTRIC HEIGHT	GM	1.719	m
DRAFT A.P.	Tap	6.372	m	FREE SURFACE MOMENT	FSM	3816.19	MT m
DRAFT MEAN	Tms	6.030	m	FREE SURFACE CORRECTION	GGc	0.471	m
TRIM	trim	0.685	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.275	m
LONG. CENTER BUOYANCY	LCB	-0.461	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.407	m
LONG. CENTER FLOTATION	LCF	-4.330	m +fwdMS	PROPELLER IMMERSION	P.I	115.3	%
MOMENT TO CHANGE TRIM	MCT	111.02	MT m / cm	AHEAD VISIBILITY	A.V	107.7	m
TONS PER CENTIMETRE	TPC	15.15	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.10 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.59	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.378	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.594	m	min	0.000	Stage 0 (DFLD 2S)	PASS
4	Angle of Protected Immersion	18.88	deg	min	1.59	Stage 5 (VOID_S)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	1.59	Stage 0 (DFLD 2S)	PASS
6	Range of Stability	43.18	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.472	m	min	0.100	Stage 2	PASS
8	GZ Area (20 deg range)	0.0846	m rad	min	0.0175	Stage 1	PASS

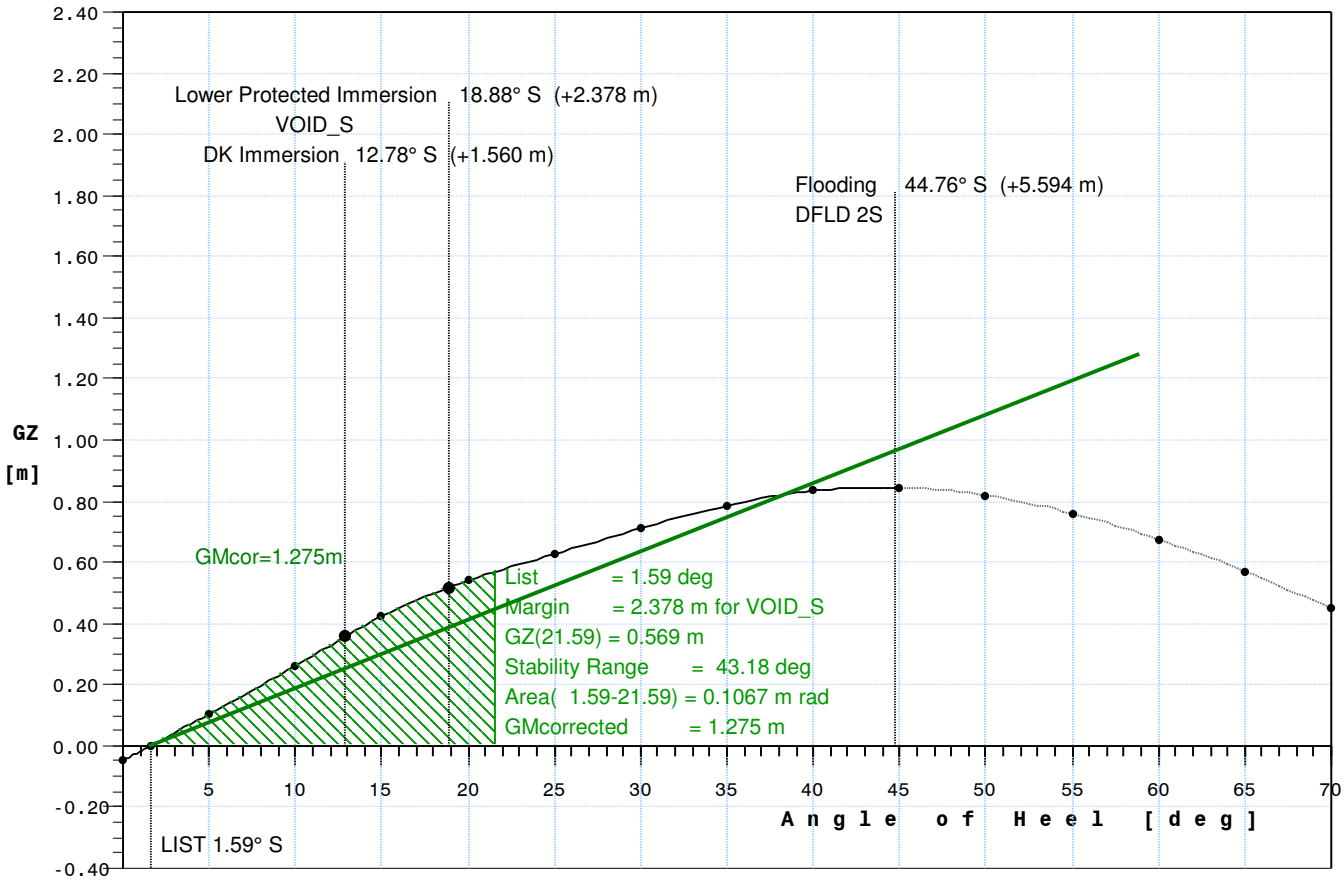
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
17	No.2 B.W.T.(S)	77.3	Flooded (0.95 perm)	173.60	169.37	33.488	5.009	1.964
2	No.1 C.O.T.(S)	63.7	Flooded (0.95 perm)	364.64	355.75	33.076	3.185	3.547
	Damage Inflow			538.24	525.11	33.209	3.774	3.036

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.098	-3.162	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.076	3.185	3.547	281.89	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.828	-3.447	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.828	3.474	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.489	-3.449	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.489	3.477	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.861	-3.449	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.861	3.477	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.211	-3.449	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.211	3.477	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.429	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.457	4.535	61.34	15.0	1.0000
	Cargo Total			4902.59	4.395	-0.307	4.537	3103.44		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)	FLOODED						
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.10 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



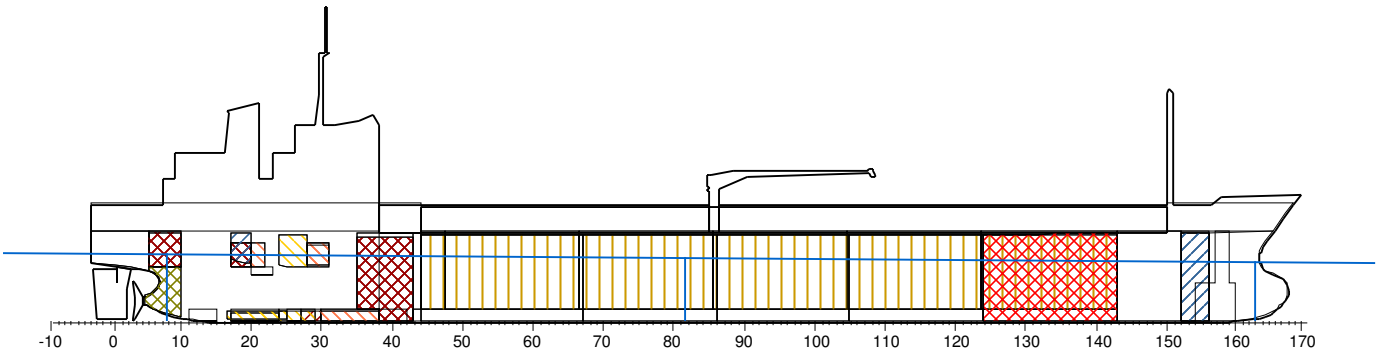
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.733A	6.021	-0.449	-0.194	4.936	-0.245	-0.048	0.000	2.594	5.749
1.59	0.685A	6.030	-0.449	-0.194	4.936	-0.057	0.000	0.000	2.378	5.594
5.00	0.590A	6.045	-0.449	-0.194	4.936	0.348	0.104	0.003	1.910	5.248
10.00	0.416A	6.059	-0.449	-0.194	4.936	0.943	0.261	0.019	1.227	4.724
12.90	0.294A	6.065	-0.449	-0.194	4.936	1.286	0.358	0.035	0.834	4.413
15.00	0.204A	6.070	-0.449	-0.194	4.936	1.539	0.423	0.049	0.548	4.180
18.88	0.019F	6.108	-0.449	-0.194	4.936	1.955	0.518	0.081	0.000	3.723
20.00	0.085F	6.120	-0.449	-0.194	4.936	2.079	0.540	0.091	-0.159	3.587
25.00	0.470F	6.215	-0.449	-0.194	4.936	2.576	0.627	0.142	-0.885	2.951
30.00	0.929F	6.343	-0.449	-0.194	4.936	3.055	0.712	0.201	-1.618	2.282
35.00	1.452F	6.520	-0.449	-0.194	4.936	3.508	0.787	0.266	-2.364	1.571
40.00	2.028F	6.764	-0.449	-0.194	4.936	3.910	0.834	0.337	-3.128	0.811
45.00	2.694F	7.080	-0.449	-0.194	4.936	4.250	0.845	0.411	-3.893	0.021
45.13	2.713F	7.089	-0.449	-0.194	4.936	4.257	0.845	0.413	-3.913	0.000
50.00	3.474F	7.469	-0.449	-0.194	4.936	4.526	0.819	0.484	-4.638	-0.780
55.00	4.433F	7.958	-0.449	-0.194	4.936	4.739	0.760	0.553	-5.353	-1.581
60.00	5.672F	8.596	-0.449	-0.194	4.936	4.894	0.675	0.616	-6.031	-2.373
65.00	7.355F	9.470	-0.449	-0.194	4.936	4.997	0.571	0.670	-6.666	-3.151
70.00	9.816F	10.759	-0.449	-0.194	4.936	5.051	0.452	0.715	-7.255	-3.908

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

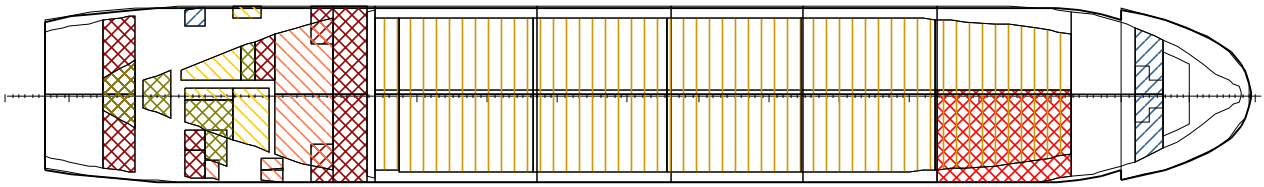
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.378	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.59S	deg	max 25.00	PASS	at completion of flooding
Stability Range	43.18	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.472	m	min 0.100	PASS	at 40.0 % of flooding
Area under 20 degrees range	0.0846	m rad	min 0.0175	PASS	at 20.0 % of flooding

No.11 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.031	37947.6	0.027	146.0	4.541	24506.2	3370.25
Fuel	376.57	-33.492	-12611.9	0.170	64.1	4.645	1749.1	390.72
Diesel	62.55	-31.781	-1988.0	1.184	74.1	1.473	92.2	200.57
Lub. Oil	31.74	-37.305	-1184.2	-0.755	-24.0	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.833	-1016.9	0.133	2.9	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	181.00	33.510	6065.4	5.096	922.3	2.137	386.8	446.24

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.744	m
DRAFT CORRESPONDING	Tcf	6.126	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.974	m	METACENTRIC HEIGHT	GM	1.829	m
DRAFT A.P.	Tap	6.266	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.120	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.292	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.354	m
LONG. CENTER BUOYANCY	LCB	1.476	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.277	m +fwdMS	PROPELLER IMMERSION	P.I	112.7	%
MOMENT TO CHANGE TRIM	MCT	120.18	MT m / cm	AHEAD VISIBILITY	A.V	96.3	m
TONS PER CENTIMETRE	TPC	15.91	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.11 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.13	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.166	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.467	m	min	0.000	Stage 0 (DFLD 2S)	PASS
4	Angle of Protected Immersion	18.82	deg	min	3.13	Stage 5 (BWT3_S-F)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	3.13	Stage 0 (DFLD 2S)	PASS
6	Range of Stability	41.63	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.442	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0816	m rad	min	0.0175	Stage 4	PASS

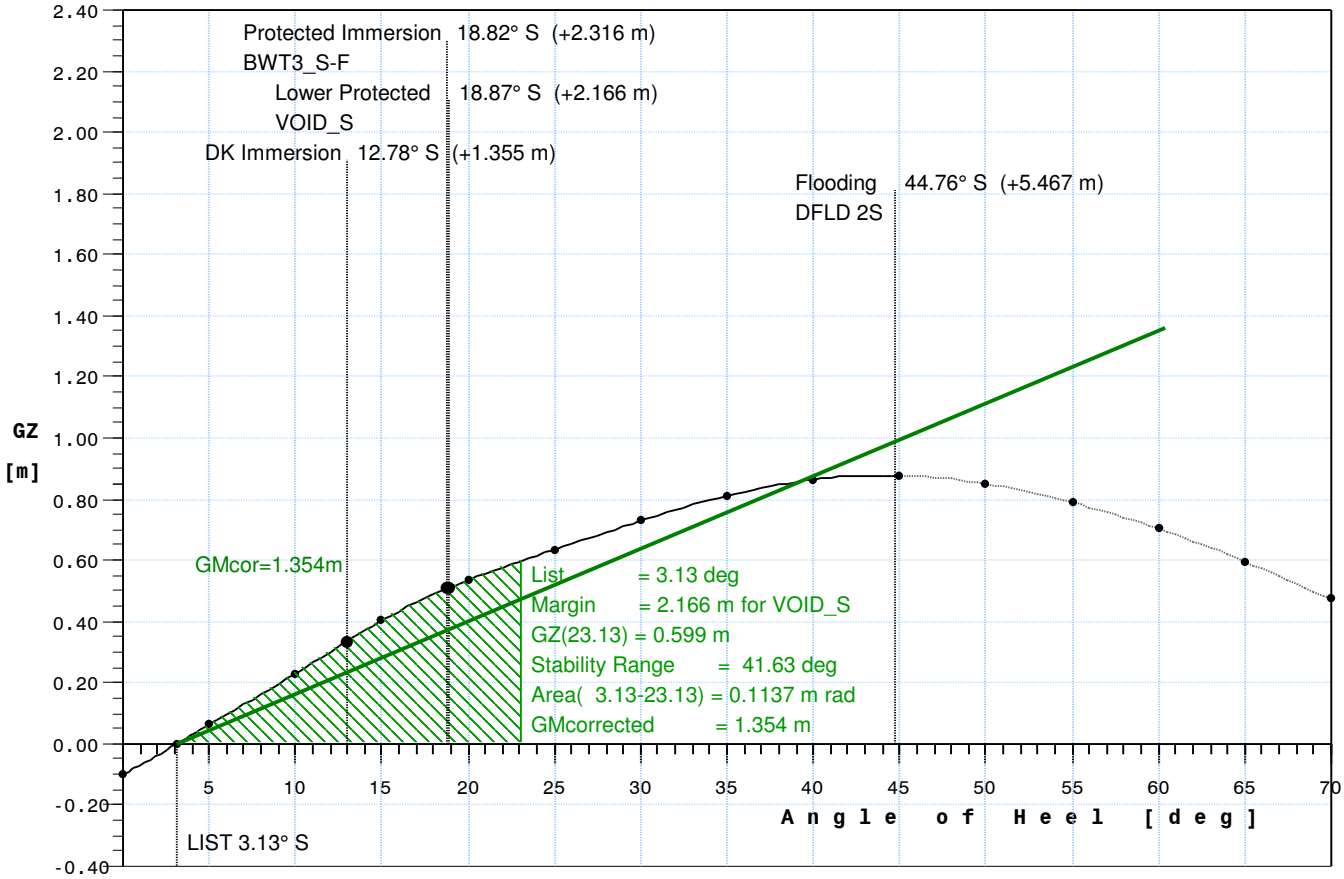
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
17	No.2 B.W.T.(S)	80.6	Flooded (0.95 perm)	181.00	176.59	33.510	5.096	2.137
	Damage Inflow			181.00	176.59	33.510	5.096	2.137

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.107	-3.148	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.100	3.201	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.835	-3.433	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.835	3.487	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.495	-3.436	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.495	3.490	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.855	-3.436	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.855	3.490	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.205	-3.436	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.205	3.490	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.416	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.470	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.031	0.027	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)	FLOODED						
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.11 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



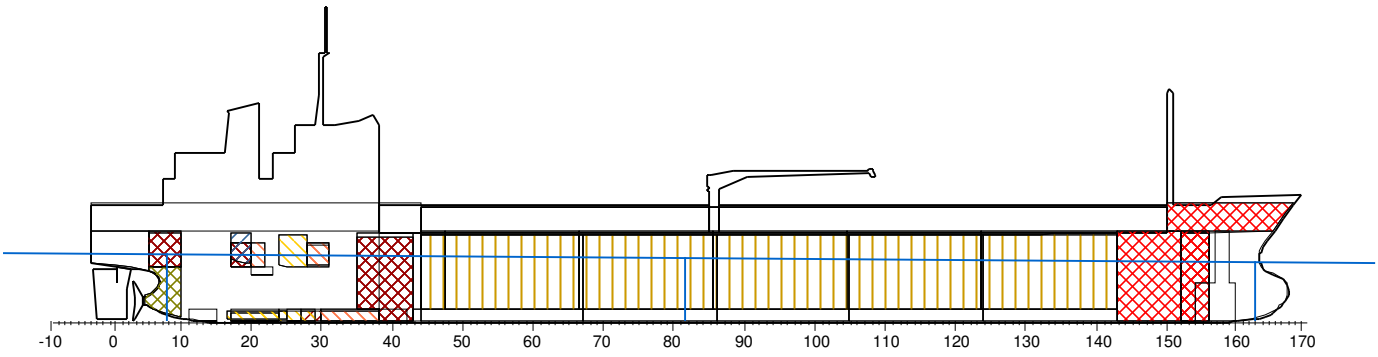
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.324A	6.117	1.481	0.000	4.915	-0.102	-0.102	0.000	2.595	5.783
3.13	0.292A	6.120	1.481	0.000	4.915	0.269	0.000	0.000	2.166	5.467
5.00	0.267A	6.121	1.481	0.000	4.915	0.490	0.061	0.001	1.910	5.274
10.00	0.175A	6.116	1.481	0.000	4.915	1.084	0.230	0.014	1.227	4.744
12.94	0.099A	6.111	1.481	0.000	4.915	1.429	0.335	0.028	0.827	4.423
15.00	0.044A	6.108	1.481	0.000	4.915	1.676	0.403	0.041	0.547	4.192
18.87	0.106F	6.130	1.481	0.000	4.915	2.091	0.509	0.072	0.000	3.730
20.00	0.152F	6.137	1.481	0.000	4.915	2.216	0.535	0.083	-0.160	3.591
25.00	0.452F	6.211	1.481	0.000	4.915	2.712	0.634	0.134	-0.886	2.949
30.00	0.844F	6.322	1.481	0.000	4.915	3.186	0.729	0.193	-1.617	2.277
35.00	1.307F	6.484	1.481	0.000	4.915	3.631	0.812	0.261	-2.362	1.563
40.00	1.825F	6.713	1.481	0.000	4.915	4.024	0.865	0.334	-3.126	0.801
45.00	2.436F	7.015	1.481	0.000	4.915	4.353	0.878	0.410	-3.890	0.009
45.05	2.443F	7.019	1.481	0.000	4.915	4.355	0.878	0.411	-3.898	0.000
50.00	3.170F	7.393	1.481	0.000	4.915	4.616	0.851	0.486	-4.635	-0.793
55.00	4.075F	7.868	1.481	0.000	4.915	4.816	0.790	0.558	-5.350	-1.595
60.00	5.241F	8.487	1.481	0.000	4.915	4.959	0.703	0.623	-6.027	-2.387
65.00	6.826F	9.335	1.481	0.000	4.915	5.050	0.596	0.680	-6.662	-3.165
70.00	9.142F	10.586	1.481	0.000	4.915	5.093	0.474	0.727	-7.250	-3.922

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

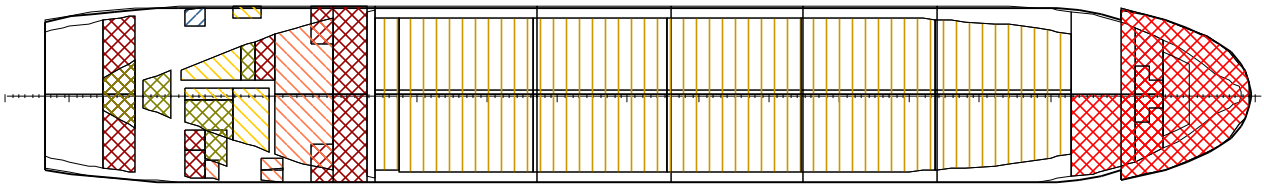
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.166	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.13S	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.63	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.442	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0816	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.12 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.035	37966.7	0.015	83.4	4.540	24503.4	3370.25
Fuel	376.57	-33.491	-12611.6	0.161	60.8	4.645	1749.0	390.72
Diesel	62.55	-31.777	-1987.7	1.172	73.3	1.473	92.1	200.57
Lub. Oil	31.74	-37.302	-1184.1	-0.766	-24.3	1.340	42.5	49.30
Fr. Water	74.00	39.940	2955.6	-1.910	-141.4	4.155	307.5	20.45
Miscel	21.71	-46.834	-1016.9	0.126	2.7	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8532.15	1.134	9675.7	-0.021	-177.5	4.922	41991.9	4064.78
Outflow	65.50	46.702	3059.0	2.722	178.3	4.015	263.0	18.22
Inflow	270.35	43.554	11774.9	2.571	695.0	3.359	908.1	202.10

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8532.15	MT	TRANSVERSE METACENTRE	KM	6.769	m
DRAFT CORRESPONDING	Tcf	6.141	m	VERT. CENTER OF GRAVITY	KG	4.922	m
DRAFT F.P.	Tfp	6.104	m	METACENTRIC HEIGHT	GM	1.834	m
DRAFT A.P.	Tap	6.177	m	FREE SURFACE MOMENT	FSM	4064.78	MT m
DRAFT MEAN	Tms	6.140	m	FREE SURFACE CORRECTION	GGc	0.476	m
TRIM	trim	0.073	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.361	m
LONG. CENTER BUOYANCY	LCB	1.133	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.398	m
LONG. CENTER FLOTATION	LCF	-3.208	m +fwdMS	PROPELLER IMMERSION	P.I	110.4	%
MOMENT TO CHANGE TRIM	MCT	110.85	MT m / cm	AHEAD VISIBILITY	A.V	91.0	m
TONS PER CENTIMETRE	TPC	15.52	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.12 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.79	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.384	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.657	m	min	0.000	Stage 0 (DFLD 2S)	PASS
4	Angle of Protected Immersion	18.00	deg	min	1.79	Stage 5 (BWT2_S-A)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	1.79	Stage 0 (DFLD 2S)	PASS
6	Range of Stability	42.98	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.451	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0838	m rad	min	0.0175	Stage 4	PASS

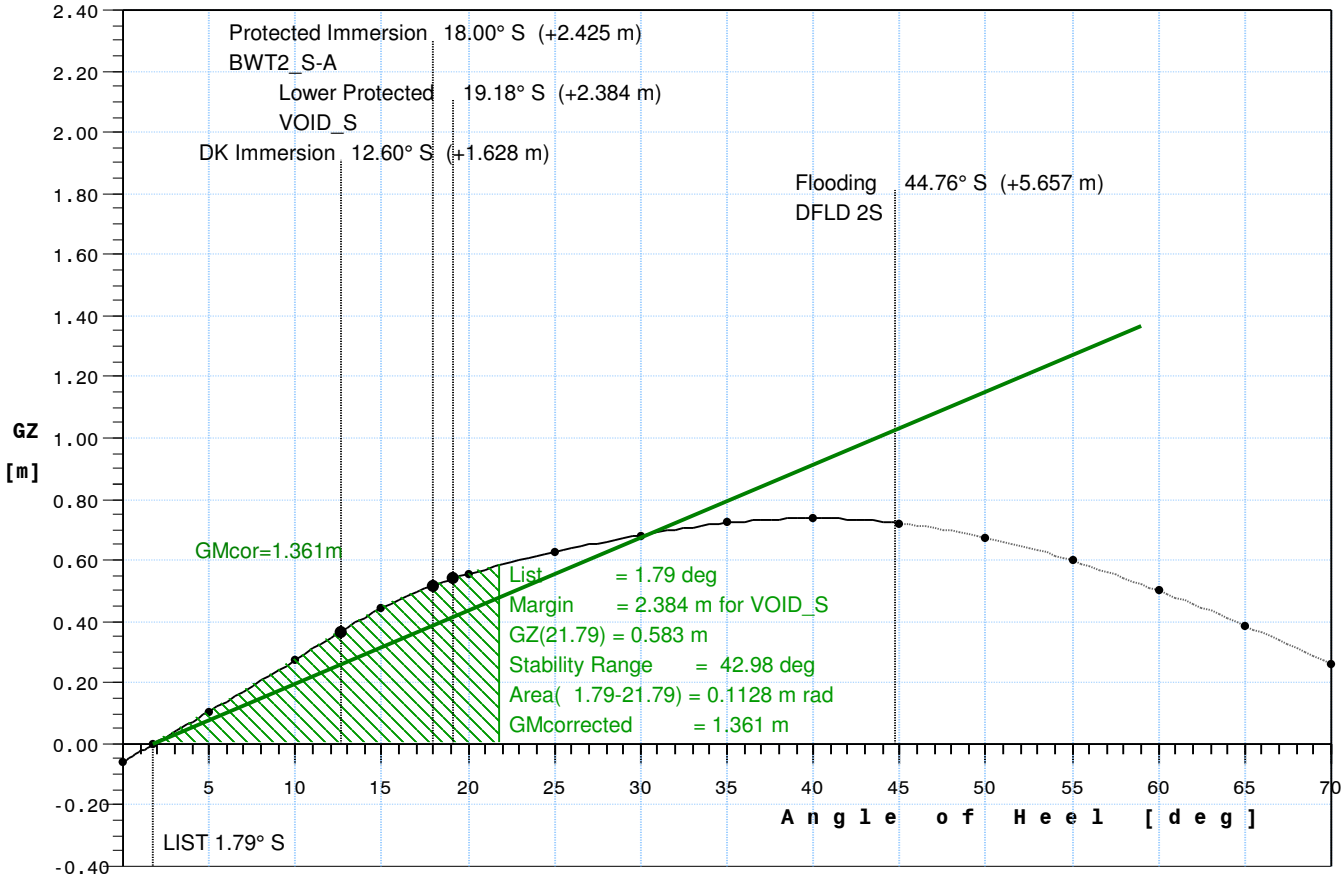
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
15	No.1 B.W.T.(S)	68.7	Flooded (0.95 perm)	195.11	190.35	42.349	2.935	3.298
54	E.F.P.R.	53.4	Flooded (0.95 perm)	27.17	26.51	46.587	0.123	4.528
52	F'CLE							
46	F.W.T.(S)	71.6	Flooded (0.95 perm)	48.07	46.90	46.734	2.477	2.945
	Damage Inflow			270.35	263.75	43.554	2.571	3.359

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.109	-3.160	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.105	3.190	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.839	-3.445	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.839	3.476	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.499	-3.447	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.499	3.478	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.851	-3.447	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.851	3.478	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.201	-3.447	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.201	3.478	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.428	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.459	4.535	61.34	15.0	1.0000
	Cargo Total			5397.08	7.035	0.015	4.540	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)	FLOODED						
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.12 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



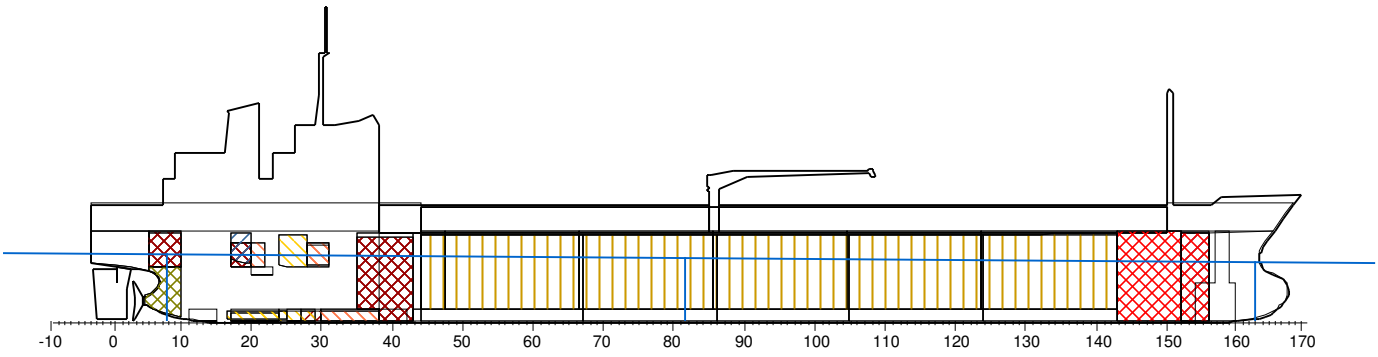
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.100A	6.137	1.134	-0.021	4.922	-0.080	-0.058	0.000	2.628	5.835
1.79	0.073A	6.140	1.134	-0.021	4.922	0.133	0.000	0.000	2.384	5.657
5.00	0.024A	6.142	1.134	-0.021	4.922	0.515	0.106	0.003	1.946	5.330
10.00	0.088F	6.140	1.134	-0.021	4.922	1.111	0.275	0.019	1.265	4.803
12.60	0.174F	6.138	1.134	-0.021	4.922	1.415	0.367	0.034	0.914	4.524
15.00	0.255F	6.136	1.134	-0.021	4.922	1.701	0.444	0.051	0.588	4.257
19.18	0.505F	6.177	1.134	-0.021	4.922	2.134	0.540	0.087	0.000	3.765
20.00	0.555F	6.186	1.134	-0.021	4.922	2.222	0.554	0.095	-0.116	3.666
25.00	0.992F	6.289	1.134	-0.021	4.922	2.692	0.626	0.147	-0.840	3.035
30.00	1.582F	6.441	1.134	-0.021	4.922	3.130	0.682	0.204	-1.569	2.377
35.00	2.319F	6.654	1.134	-0.021	4.922	3.534	0.722	0.265	-2.306	1.688
40.00	3.180F	6.943	1.134	-0.021	4.922	3.890	0.737	0.329	-3.056	0.955
45.00	4.179F	7.312	1.134	-0.021	4.922	4.193	0.722	0.393	-3.808	0.191
46.23	4.456F	7.418	1.134	-0.021	4.922	4.248	0.713	0.408	-3.991	0.000
50.00	5.388F	7.775	1.134	-0.021	4.922	4.436	0.674	0.454	-4.543	-0.586
55.00	6.892F	8.361	1.134	-0.021	4.922	4.623	0.599	0.510	-5.249	-1.363
60.00	8.829F	9.125	1.134	-0.021	4.922	4.757	0.501	0.558	-5.919	-2.135
65.00	11.459F	10.172	1.134	-0.021	4.922	4.842	0.388	0.597	-6.549	-2.894
70.00	15.304F	11.715	1.134	-0.021	4.922	4.882	0.262	0.625	-7.134	-3.636

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.384	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.79S	deg	max 25.00	PASS	at completion of flooding
Stability Range	42.98	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.451	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0838	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.13 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

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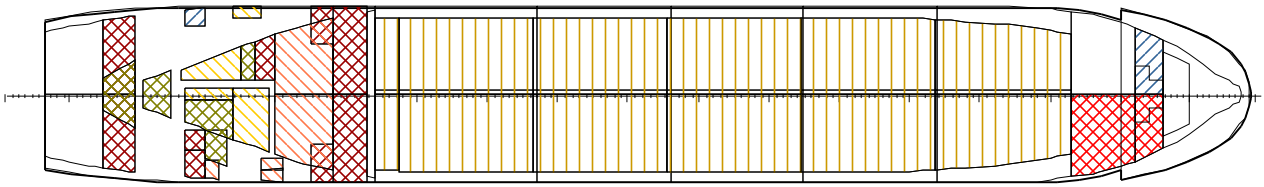


Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.033	37956.1	0.015	81.3	4.540	24503.3	3370.25
Fuel	376.57	-33.491	-12611.7	0.161	60.6	4.645	1749.0	390.72
Diesel	62.55	-31.779	-1987.8	1.171	73.3	1.473	92.1	200.57
Lub. Oil	31.74	-37.303	-1184.1	-0.766	-24.3	1.340	42.5	49.30
Fr. Water	74.00	39.940	2955.6	-1.910	-141.4	4.155	307.5	20.45
Miscel	21.71	-46.835	-1016.9	0.125	2.7	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8532.15	1.134	9675.7	-0.021	-177.5	4.922	41991.9	4064.78
Outflow	65.50	46.702	3059.0	2.722	178.3	4.015	263.0	18.22
Inflow	240.17	43.217	10379.4	2.839	681.9	3.191	766.4	185.39

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8532.15	MT	TRANSVERSE METACENTRE	KM	6.771	m
DRAFT CORRESPONDING	Tcf	6.123	m	VERT. CENTER OF GRAVITY	KG	4.922	m
DRAFT F.P.	Tfp	6.023	m	METACENTRIC HEIGHT	GM	1.835	m
DRAFT A.P.	Tap	6.216	m	FREE SURFACE MOMENT	FSM	4064.78	MT m
DRAFT MEAN	Tms	6.119	m	FREE SURFACE CORRECTION	GGc	0.476	m
TRIM	trim	0.193	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.363	m
LONG. CENTER BUOYANCY	LCB	1.131	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.398	m
LONG. CENTER FLOTATION	LCF	-2.981	m +fwdMS	PROPELLER IMMERSION	P.I	111.4	%
MOMENT TO CHANGE TRIM	MCT	113.46	MT m / cm	AHEAD VISIBILITY	A.V	94.0	m
TONS PER CENTIMETRE	TPC	15.63	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.13 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.75	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.383	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.644	m	min	0.000	Stage 0 (DFLD 2S)	PASS
4	Angle of Protected Immersion	18.37	deg	min	1.75	Stage 5 (BWT2_S-A)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	1.75	Stage 0 (DFLD 2S)	PASS
6	Range of Stability	43.02	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.458	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0846	m rad	min	0.0175	Stage 4	PASS

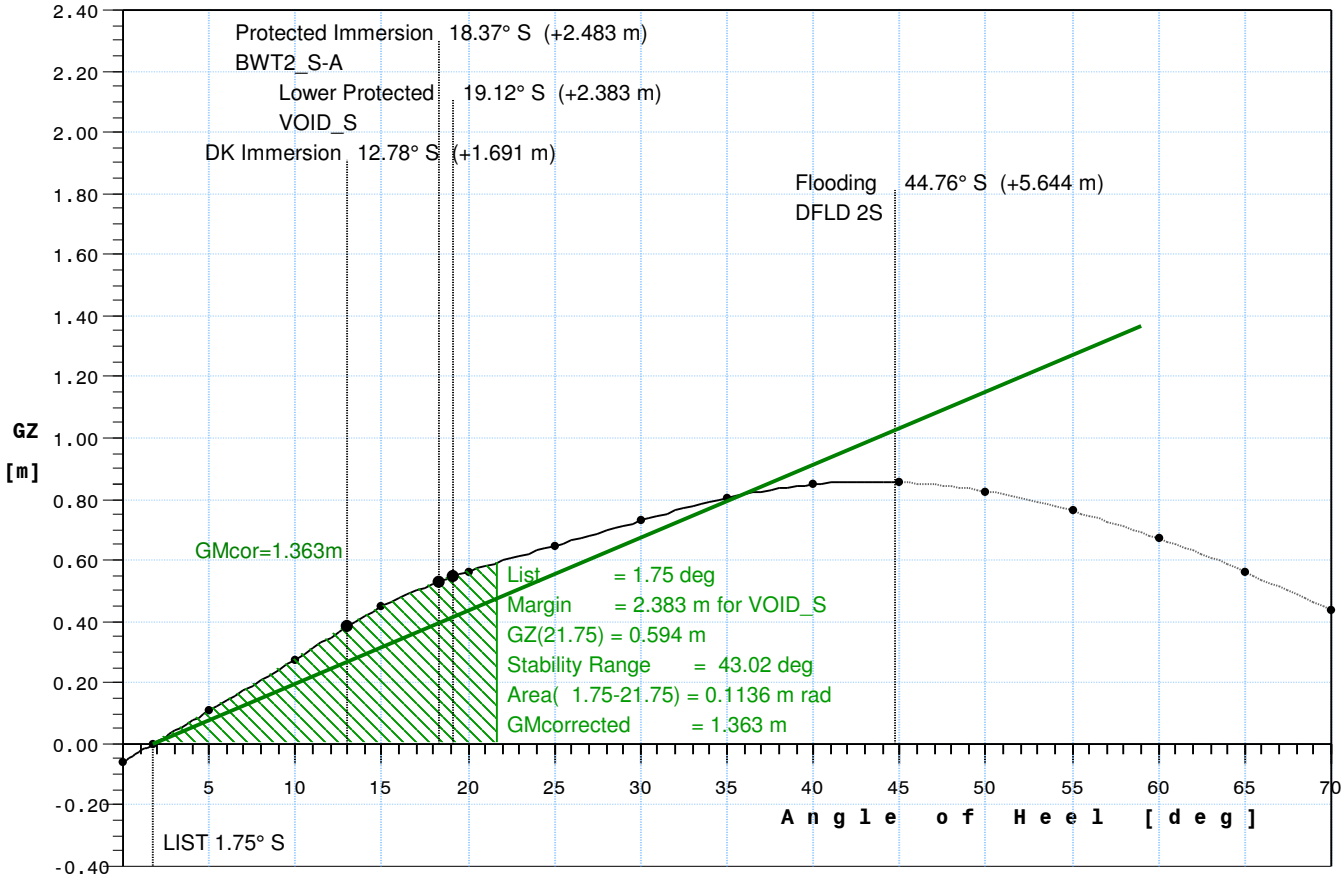
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
15	No.1 B.W.T.(S)	67.8	Flooded (0.95 perm)	192.58	187.89	42.348	2.931	3.260
46	F.W.T.(S)	70.9	Flooded (0.95 perm)	47.58	46.42	46.736	2.470	2.912
	Damage Inflow			240.17	234.31	43.217	2.839	3.191

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.107	-3.160	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.103	3.190	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.837	-3.445	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.837	3.476	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.497	-3.448	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.497	3.478	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.853	-3.448	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.853	3.478	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.203	-3.448	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.203	3.478	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.428	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.458	4.535	61.34	15.0	1.0000
	Cargo Total			5397.08	7.033	0.015	4.540	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)	FLOODED						
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.13 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



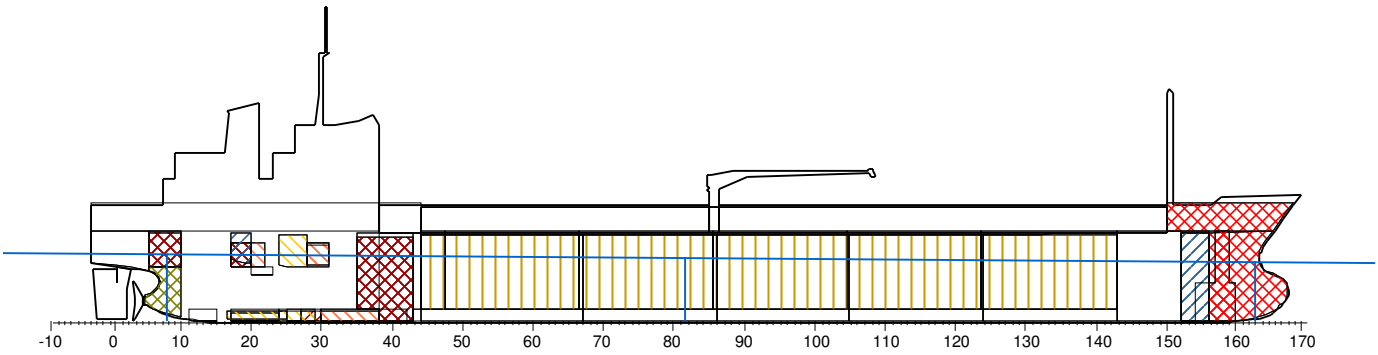
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.218A	6.116	1.134	-0.021	4.922	-0.078	-0.057	0.000	2.620	5.818
1.75	0.193A	6.119	1.134	-0.021	4.922	0.129	0.000	0.000	2.383	5.644
5.00	0.144A	6.122	1.134	-0.021	4.922	0.516	0.107	0.003	1.938	5.312
10.00	0.035A	6.118	1.134	-0.021	4.922	1.113	0.276	0.020	1.258	4.786
12.98	0.059F	6.115	1.134	-0.021	4.922	1.463	0.383	0.037	0.855	4.464
15.00	0.125F	6.113	1.134	-0.021	4.922	1.705	0.448	0.052	0.580	4.239
19.12	0.353F	6.150	1.134	-0.021	4.922	2.136	0.546	0.088	0.000	3.753
20.00	0.403F	6.158	1.134	-0.021	4.922	2.231	0.563	0.096	-0.124	3.647
25.00	0.776F	6.247	1.134	-0.021	4.922	2.713	0.647	0.149	-0.849	3.010
30.00	1.223F	6.370	1.134	-0.021	4.922	3.178	0.730	0.209	-1.581	2.340
35.00	1.749F	6.541	1.134	-0.021	4.922	3.615	0.803	0.276	-2.324	1.631
40.00	2.343F	6.780	1.134	-0.021	4.922	4.002	0.848	0.348	-3.084	0.875
45.00	3.039F	7.093	1.134	-0.021	4.922	4.328	0.856	0.423	-3.845	0.089
45.56	3.124F	7.133	1.134	-0.021	4.922	4.355	0.854	0.431	-3.929	0.000
50.00	3.870F	7.484	1.134	-0.021	4.922	4.589	0.826	0.497	-4.587	-0.709
55.00	4.901F	7.976	1.134	-0.021	4.922	4.787	0.762	0.566	-5.299	-1.506
60.00	6.232F	8.618	1.134	-0.021	4.922	4.929	0.672	0.629	-5.976	-2.296
65.00	8.042F	9.499	1.134	-0.021	4.922	5.019	0.563	0.683	-6.610	-3.071
70.00	10.688F	10.798	1.134	-0.021	4.922	5.060	0.439	0.726	-7.197	-3.826

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

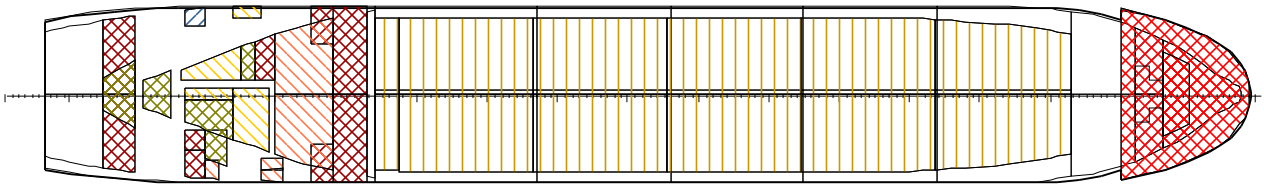
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.383	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.75S	deg	max 25.00	PASS	at completion of flooding
Stability Range	43.02	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.458	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0846	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.14 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.031	37946.9	0.000	0.5	4.540	24502.1	3370.25
Fuel	376.57	-33.492	-12611.8	0.148	55.8	4.644	1748.9	390.72
Diesel	62.55	-31.780	-1987.9	1.108	69.3	1.472	92.1	200.57
Lub. Oil	31.74	-37.306	-1184.2	-0.802	-25.5	1.339	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.839	-1017.0	0.115	2.5	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	123.23	50.667	6243.8	0.017	2.0	2.922	360.1	171.75

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.785	m
DRAFT CORRESPONDING	Tcf	6.092	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.937	m	METACENTRIC HEIGHT	GM	1.870	m
DRAFT A.P.	Tap	6.234	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.086	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.297	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.395	m
LONG. CENTER BUOYANCY	LCB	1.471	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.263	m +fwdMS	PROPELLER IMMERSION	P.I	111.8	%
MOMENT TO CHANGE TRIM	MCT	118.11	MT m / cm	AHEAD VISIBILITY	A.V	97.0	m
TONS PER CENTIMETRE	TPC	15.89	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.14 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	0.01	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.593	m	min	0.000	Stage 0 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.740	m	min	0.000	Stage 0 (DFLD 2S)	PASS
4	Angle of Protected Immersion	19.15	deg	min	0.01	Stage 0 (VOID_S)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	0.01	Stage 0 (DFLD 2S)	PASS
6	Range of Stability	44.76	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.482	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0879	m rad	min	0.0175	Stage 4	PASS

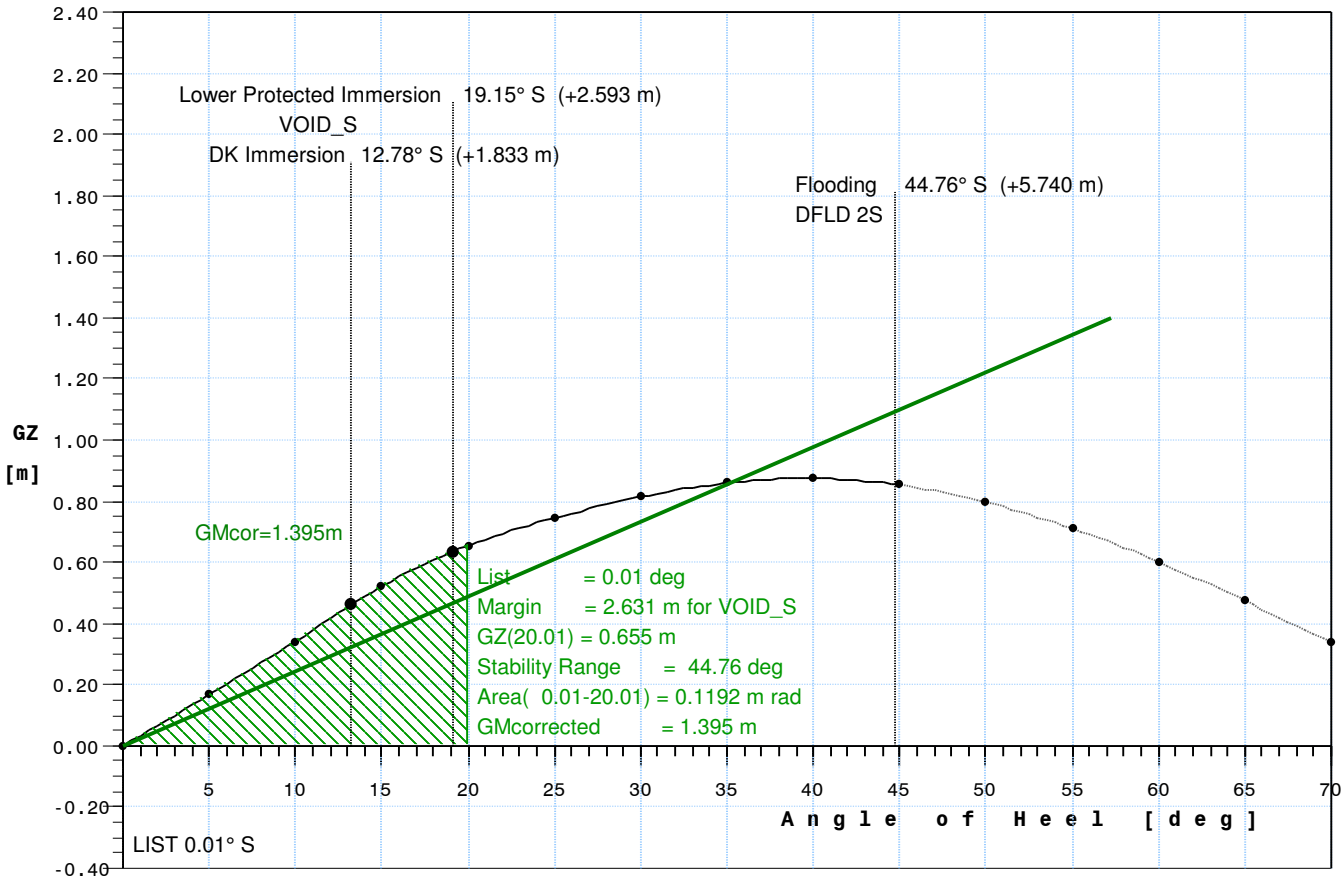
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
53	B.T.ROOM	79.5	Flooded (0.85 perm)	45.15	44.05	49.278	0.045	2.191
52	F'CLE							
13	F.P.T&B.W.T	59.6	Flooded (0.95 perm)	78.08	76.17	51.470	0.000	3.346
	Damage Inflow			123.23	120.23	50.667	0.017	2.922

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.103	-3.175	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.103	3.175	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.835	-3.460	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.835	3.461	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.495	-3.463	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.495	3.463	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.855	-3.463	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.855	3.463	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.205	-3.463	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.205	3.463	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.443	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.443	4.535	61.34	15.0	1.0000
	Cargo Total			5397.08	7.031	0.000	4.540	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T	FLOODED						
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.14 Damage Case for O3 - Cargo Oil Full Loading Departure p=0.922(Homo)



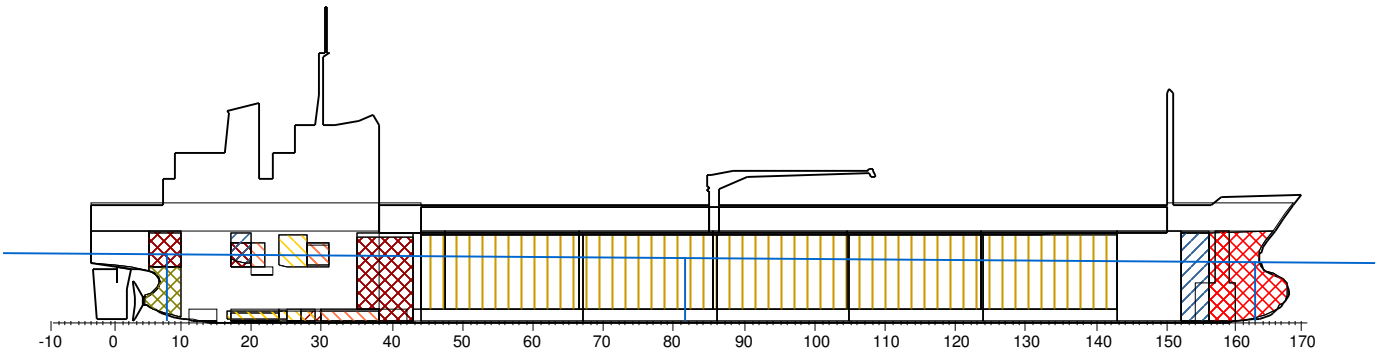
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.01	0.297A	6.086	1.481	0.000	4.915	0.001	0.000	0.000	2.631	5.822
5.00	0.273A	6.082	1.481	0.000	4.915	0.596	0.168	0.007	1.947	5.311
10.00	0.215A	6.069	1.481	0.000	4.915	1.195	0.342	0.029	1.264	4.777
13.21	0.155A	6.058	1.481	0.000	4.915	1.577	0.461	0.052	0.829	4.426
15.00	0.121A	6.051	1.481	0.000	4.915	1.795	0.523	0.067	0.584	4.224
19.15	0.037F	6.070	1.481	0.000	4.915	2.242	0.636	0.110	0.000	3.729
20.00	0.070F	6.074	1.481	0.000	4.915	2.336	0.655	0.119	-0.119	3.625
25.00	0.407F	6.152	1.481	0.000	4.915	2.822	0.745	0.180	-0.841	2.990
30.00	0.908F	6.280	1.481	0.000	4.915	3.271	0.814	0.249	-1.568	2.331
35.00	1.568F	6.474	1.481	0.000	4.915	3.679	0.860	0.322	-2.304	1.639
40.00	2.337F	6.742	1.481	0.000	4.915	4.033	0.874	0.398	-3.055	0.904
45.00	3.240F	7.087	1.481	0.000	4.915	4.328	0.853	0.473	-3.807	0.139
45.89	3.418F	7.158	1.481	0.000	4.915	4.367	0.845	0.487	-3.940	0.000
50.00	4.316F	7.517	1.481	0.000	4.915	4.562	0.797	0.545	-4.540	-0.638
55.00	5.641F	8.056	1.481	0.000	4.915	4.737	0.711	0.611	-5.244	-1.417
60.00	7.341F	8.758	1.481	0.000	4.915	4.858	0.602	0.669	-5.913	-2.189
65.00	9.643F	9.720	1.481	0.000	4.915	4.931	0.476	0.716	-6.542	-2.948
70.00	13.001F	11.137	1.481	0.000	4.915	4.957	0.338	0.751	-7.124	-3.690

DAMAGE STABILITY SURVIVAL CRITERIA

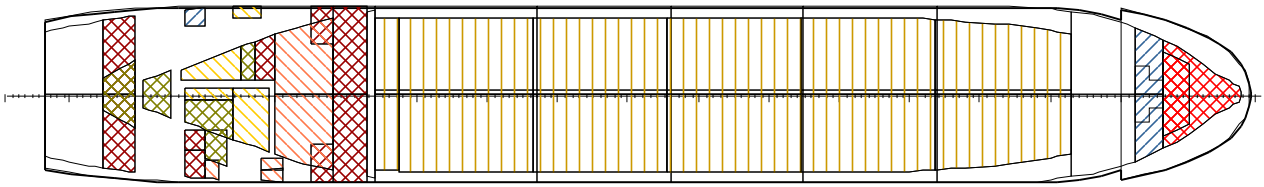
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.593	m	min 0.000	PASS	at commencement of flooding
Angle of Heel	0.01S	deg	max 25.00	PASS	at completion of flooding
Stability Range	44.76	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.482	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0879	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.15 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.031	37946.9	0.000	0.5	4.540	24502.1	3370.25
Fuel	376.57	-33.492	-12611.8	0.148	55.8	4.644	1748.9	390.72
Diesel	62.55	-31.780	-1987.9	1.108	69.3	1.472	92.1	200.57
Lub. Oil	31.74	-37.306	-1184.2	-0.802	-25.5	1.339	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.839	-1017.0	0.115	2.5	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	123.23	50.667	6243.8	0.017	2.0	2.922	360.1	171.75

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.785	m
DRAFT CORRESPONDING	Tcf	6.092	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.937	m	METACENTRIC HEIGHT	GM	1.870	m
DRAFT A.P.	Tap	6.234	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.086	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.297	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.395	m
LONG. CENTER BUOYANCY	LCB	1.471	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.263	m +fwdMS	PROPELLER IMMERSION	P.I	111.8	%
MOMENT TO CHANGE TRIM	MCT	118.11	MT m / cm	AHEAD VISIBILITY	A.V	97.0	m
TONS PER CENTIMETRE	TPC	15.89	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.15 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	0.01	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.593	m	min	0.000	Stage 0 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.740	m	min	0.000	Stage 0 (DFLD_2S)	PASS
4	Angle of Protected Immersion	19.15	deg	min	0.01	Stage 0 (VOID_S)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	0.01	Stage 0 (DFLD_2S)	PASS
6	Range of Stability	44.76	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.482	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0879	m rad	min	0.0175	Stage 4	PASS

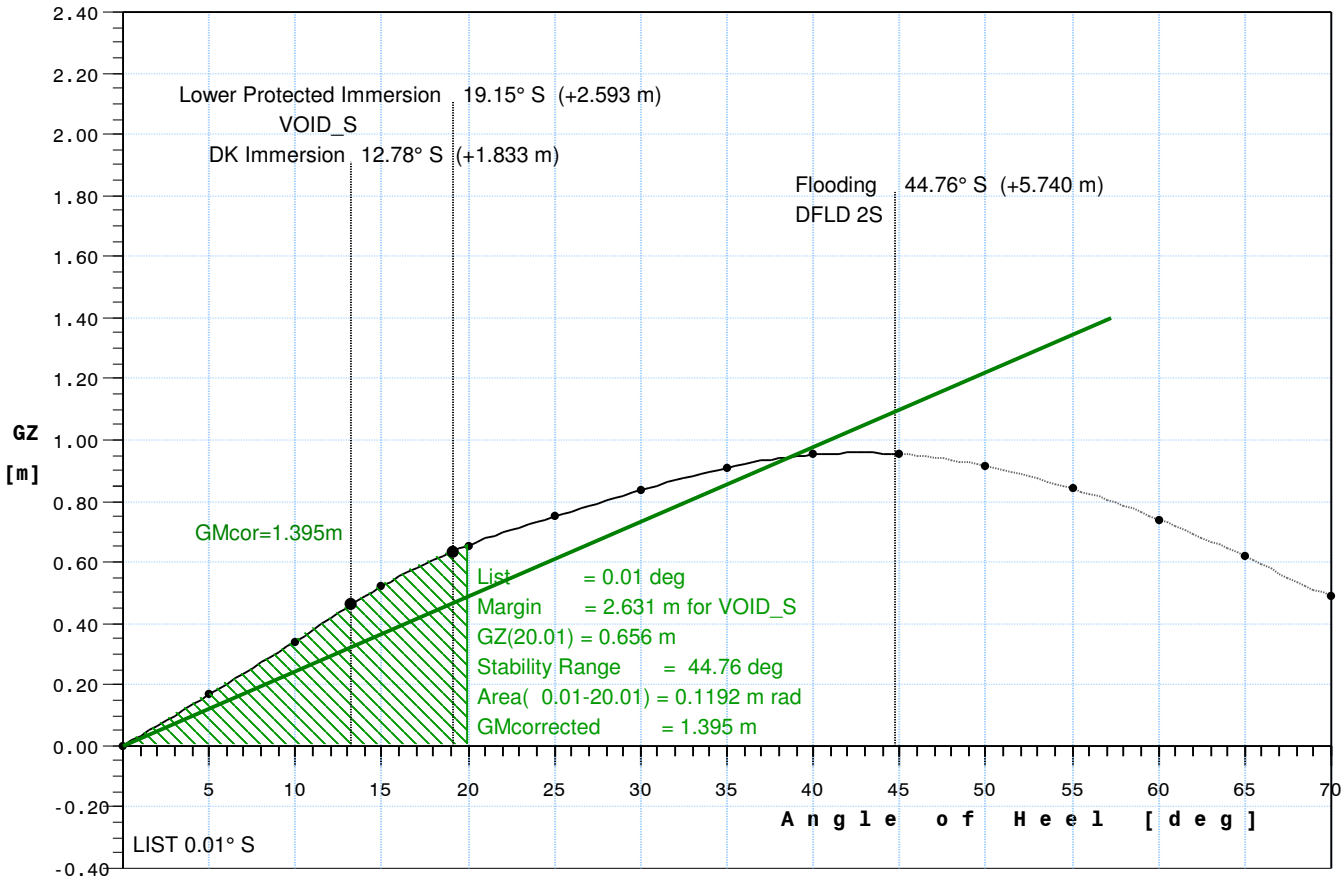
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
53	B.T.ROOM	79.5	Flooded (0.85 perm)	45.15	44.05	49.278	0.045	2.191
13	F.P.T&B.W.T	59.6	Flooded (0.95 perm)	78.08	76.17	51.470	0.000	3.346
	Damage Inflow			123.23	120.23	50.667	0.017	2.922

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.103	-3.175	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.103	3.175	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.835	-3.460	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.835	3.461	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.495	-3.463	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.495	3.463	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.855	-3.463	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.855	3.463	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.205	-3.463	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.205	3.463	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.443	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.443	4.535	61.34	15.0	1.0000
	Cargo Total			5397.08	7.031	0.000	4.540	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T	FLOODED						
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.15 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



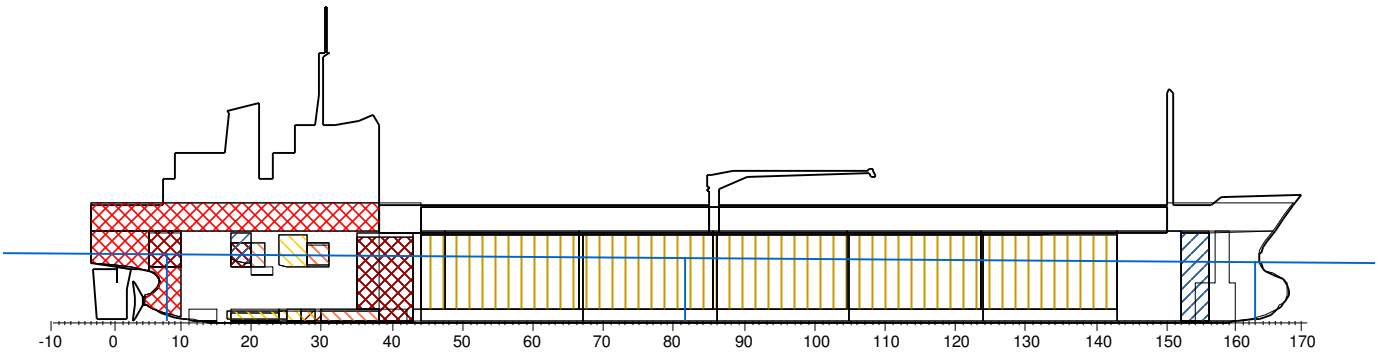
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.01	0.297A	6.086	1.481	0.000	4.915	0.001	0.000	0.000	2.631	5.822
5.00	0.273A	6.082	1.481	0.000	4.915	0.596	0.168	0.007	1.947	5.311
10.00	0.215A	6.069	1.481	0.000	4.915	1.195	0.342	0.029	1.264	4.777
13.21	0.155A	6.058	1.481	0.000	4.915	1.577	0.461	0.052	0.829	4.426
15.00	0.121A	6.051	1.481	0.000	4.915	1.795	0.523	0.067	0.584	4.224
19.15	0.036F	6.070	1.481	0.000	4.915	2.242	0.636	0.110	0.000	3.729
20.00	0.069F	6.074	1.481	0.000	4.915	2.336	0.655	0.119	-0.119	3.625
25.00	0.384F	6.147	1.481	0.000	4.915	2.827	0.750	0.181	-0.842	2.988
30.00	0.802F	6.260	1.481	0.000	4.915	3.293	0.836	0.250	-1.571	2.320
35.00	1.303F	6.423	1.481	0.000	4.915	3.729	0.910	0.326	-2.313	1.612
40.00	1.866F	6.652	1.481	0.000	4.915	4.112	0.952	0.408	-3.072	0.857
45.00	2.526F	6.953	1.481	0.000	4.915	4.429	0.953	0.491	-3.831	0.073
45.46	2.592F	6.984	1.481	0.000	4.915	4.450	0.952	0.499	-3.900	0.000
50.00	3.309F	7.326	1.481	0.000	4.915	4.679	0.914	0.573	-4.571	-0.722
55.00	4.267F	7.794	1.481	0.000	4.915	4.867	0.841	0.650	-5.281	-1.517
60.00	5.497F	8.403	1.481	0.000	4.915	4.998	0.742	0.719	-5.955	-2.305
65.00	7.162F	9.237	1.481	0.000	4.915	5.076	0.622	0.778	-6.587	-3.079
70.00	9.589F	10.467	1.481	0.000	4.915	5.106	0.488	0.827	-7.173	-3.833

DAMAGE STABILITY SURVIVAL CRITERIA

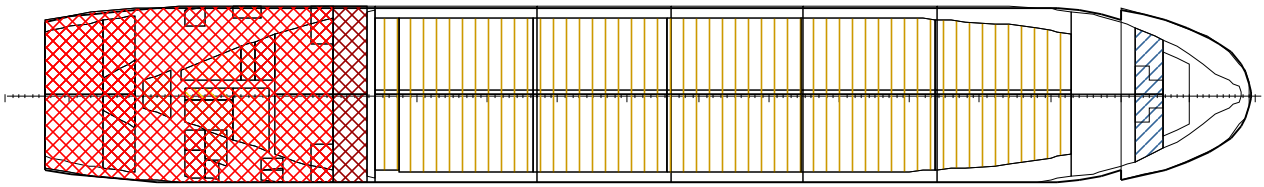
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.593	m	min 0.000	PASS	at commencement of flooding
Angle of Heel	0.01S	deg	max 25.00	PASS	at completion of flooding
Stability Range	44.76	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.482	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0879	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.16 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.023	37905.7	0.003	13.8	4.540	24502.4	3370.25
Fuel	329.50	-31.394	-10344.2	0.587	193.3	4.336	1428.6	306.76
Diesel	62.55	-31.789	-1988.5	1.123	70.2	1.472	92.1	200.57
Lub. Oil	31.74	-37.311	-1184.4	-0.795	-25.2	1.339	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	2.37	-39.970	-94.8	1.065	2.5	0.838	2.0	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8531.24	1.867	15924.9	0.016	137.8	4.908	41872.3	3999.04
Outflow	66.41	-48.041	-3190.2	-2.064	-137.1	5.760	382.5	83.96
Inflow	48.07	-49.136	-2361.9	-1.107	-53.2	4.797	230.6	233.09

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8531.24	MT	TRANSVERSE METACENTRE	KM	6.742	m
DRAFT CORRESPONDING	Tcf	5.996	m	VERT. CENTER OF GRAVITY	KG	4.908	m
DRAFT F.P.	Tfp	5.608	m	METACENTRIC HEIGHT	GM	1.820	m
DRAFT A.P.	Tap	6.371	m	FREE SURFACE MOMENT	FSM	3999.04	MT m
DRAFT MEAN	Tms	5.990	m	FREE SURFACE CORRECTION	GGc	0.469	m
TRIM	trim	0.764	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.354	m
LONG. CENTER BUOYANCY	LCB	1.854	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.377	m
LONG. CENTER FLOTATION	LCF	-0.889	m +fwdMS	PROPELLER IMMERSION	P.I	115.2	%
MOMENT TO CHANGE TRIM	MCT	114.31	MT m / cm	AHEAD VISIBILITY	A.V	110.6	m
TONS PER CENTIMETRE	TPC	15.72	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.16 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	0.30	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.578	m	min	0.000	Stage 5 (VOID_S)	PASS
3	Margin of Unprotected Opening	5.739	m	min	0.000	Stage 5 (DFLD_2S)	PASS
4	Angle of Protected Immersion	19.09	deg	min	0.30	Stage 5 (VOID_S)	PASS
5	Angle of Unprotected Immersion	41.48	deg	min	0.30	Stage 5 (DFLD_2S)	PASS
6	Range of Stability	41.18	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.494	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0883	m rad	min	0.0175	Stage 4	PASS

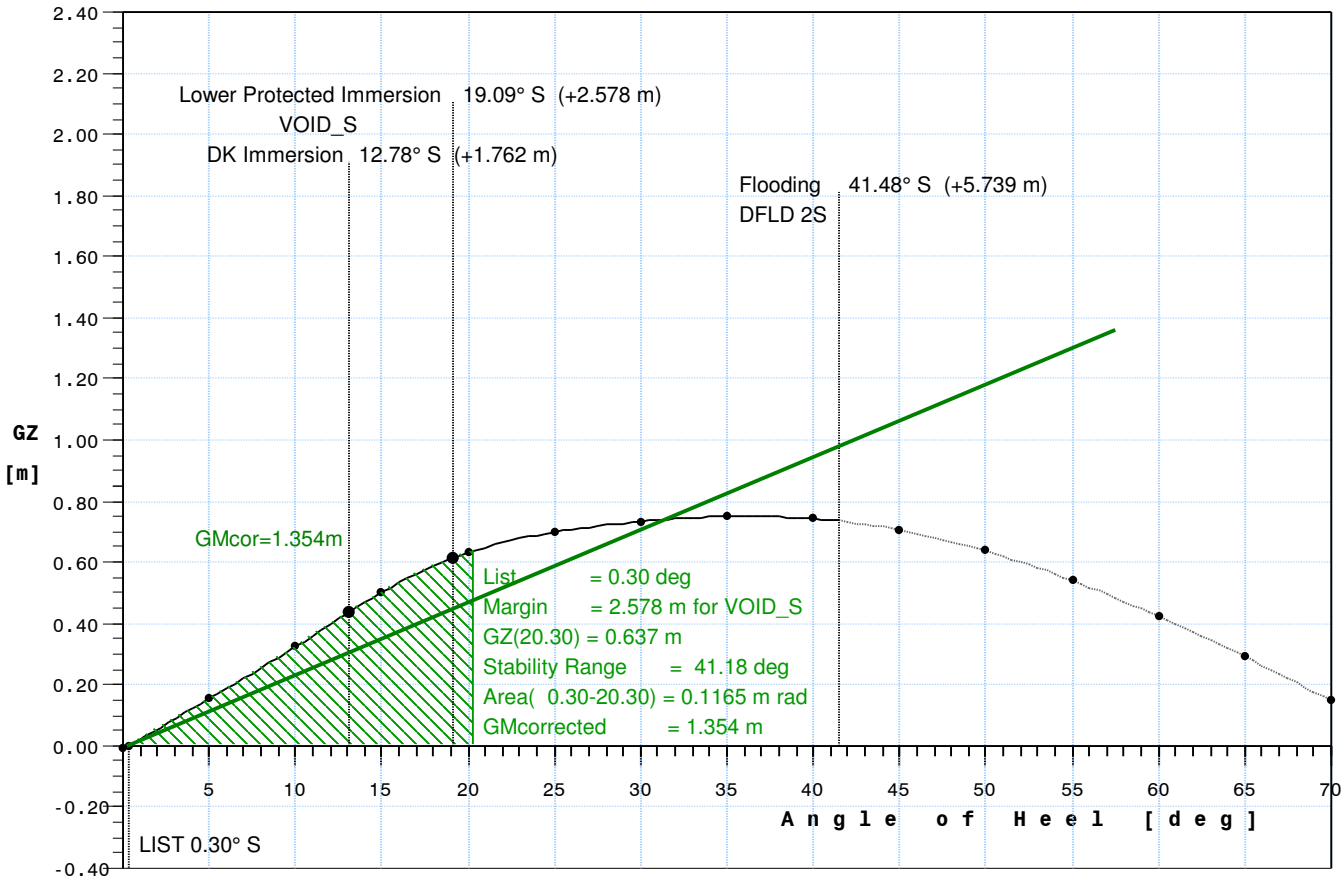
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
26	A.B.W.T.(P)	20.6	Flooded (0.95 perm)	14.92	14.55	-51.908	-1.506	5.858
47	C.W.T.	95.0	Flooded (0.95 perm)	18.83	18.37	-47.685	0.000	3.217
32	No.2 H.O.T.(P)	27.4	Flooded (0.95 perm)	14.32	13.97	-48.157	-2.149	5.769
57	POOP							
	Damage Inflow			48.07	46.90	-49.136	-1.107	4.797

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.095	-3.173	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.094	3.178	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	-3.458	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	3.463	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.487	-3.460	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.487	3.466	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.863	-3.460	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.863	3.466	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.213	-3.460	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.213	3.466	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.441	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.446	4.535	61.34	15.0	1.0000
	Cargo Total			5397.08	7.023	0.003	4.540	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)	FLOODED						
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.16 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



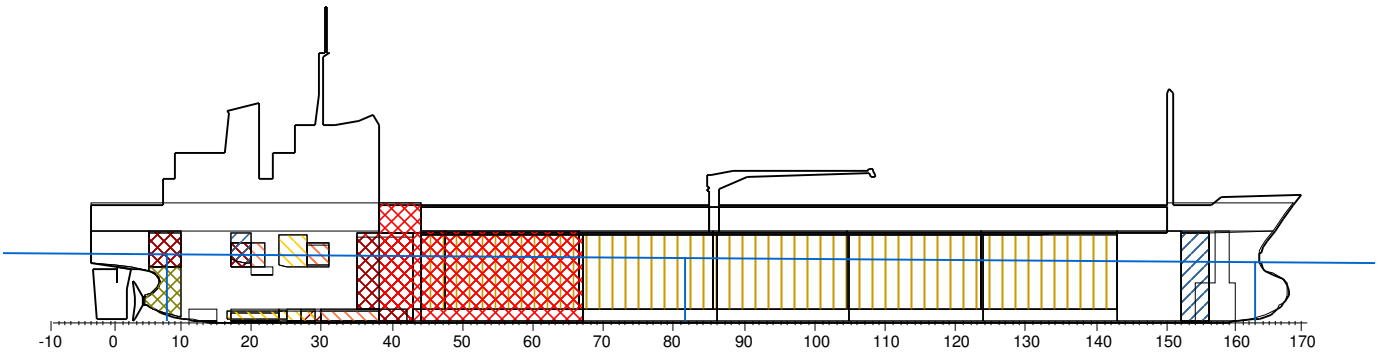
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.764A	5.990	1.867	0.016	4.908	0.006	-0.010	0.000	2.618	5.770
0.30	0.764A	5.990	1.867	0.016	4.908	0.042	0.000	0.000	2.578	5.741
5.00	0.718A	5.982	1.867	0.016	4.908	0.599	0.154	0.006	1.943	5.270
10.00	0.637A	5.966	1.867	0.016	4.908	1.195	0.324	0.027	1.268	4.747
13.15	0.572A	5.953	1.867	0.016	4.908	1.568	0.439	0.048	0.844	4.407
15.00	0.533A	5.944	1.867	0.016	4.908	1.792	0.503	0.063	0.593	4.200
19.09	0.463A	5.962	1.867	0.016	4.908	2.230	0.613	0.103	0.000	3.689
20.00	0.447A	5.966	1.867	0.016	4.908	2.330	0.631	0.113	-0.132	3.573
25.00	0.359A	6.057	1.867	0.016	4.908	2.793	0.699	0.172	-0.919	2.855
30.00	0.285A	6.211	1.867	0.016	4.908	3.208	0.734	0.234	-1.752	2.062
35.00	0.257A	6.431	1.867	0.016	4.908	3.585	0.751	0.299	-2.622	1.199
40.00	0.264A	6.726	1.867	0.016	4.908	3.916	0.743	0.365	-3.514	0.282
41.48	0.280A	6.830	1.867	0.016	4.908	3.993	0.735	0.384	-3.782	0.000
45.00	0.321A	7.100	1.867	0.016	4.908	4.194	0.706	0.428	-4.411	-0.671
50.00	0.411A	7.564	1.867	0.016	4.908	4.412	0.637	0.487	-5.289	-1.636
55.00	0.551A	8.149	1.867	0.016	4.908	4.574	0.540	0.538	-6.139	-2.600
60.00	0.750A	8.910	1.867	0.016	4.908	4.685	0.423	0.581	-6.948	-3.552
65.00	1.019A	9.949	1.867	0.016	4.908	4.749	0.291	0.612	-7.707	-4.480
70.00	1.410A	11.476	1.867	0.016	4.908	4.768	0.150	0.631	-8.410	-5.376

DAMAGE STABILITY SURVIVAL CRITERIA

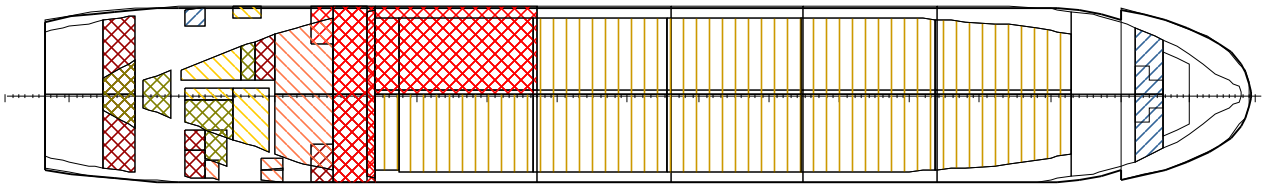
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.578	m	min 0.000	PASS	at completion of flooding
Angle of Heel	0.30S	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.18	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.494	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0883	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.17 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4773.52	10.195	48668.3	0.426	2033.1	4.542	21678.9	2969.34
Fuel	245.84	-36.551	-8985.5	3.270	803.8	5.053	1242.3	287.52
Diesel	62.55	-31.791	-1988.6	1.031	64.5	1.473	92.2	200.57
Lub. Oil	31.74	-37.320	-1184.6	-0.849	-26.9	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.851	-1017.3	0.098	2.1	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	7843.36	3.464	27168.6	0.371	2913.5	4.962	38920.9	3578.88
Outflow	754.29	-19.136	-14433.9	-3.862	-2912.7	4.420	3334.0	504.12
Inflow	1114.87	-20.428	-22774.9	-3.360	-3746.0	5.888	6564.8	1698.14

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	7843.36	MT	TRANSVERSE METACENTRE	KM	6.466	m
DRAFT CORRESPONDING	Tcf	6.198	m	VERT. CENTER OF GRAVITY	KG	4.962	m
DRAFT F.P.	Tfp	5.495	m	METACENTRIC HEIGHT	GM	1.372	m
DRAFT A.P.	Tap	6.920	m	FREE SURFACE MOMENT	FSM	3578.88	MT m
DRAFT MEAN	Tms	6.208	m	FREE SURFACE CORRECTION	GGc	0.456	m
TRIM	trim	1.425	m by STERN	METACENTRIC HEIGHT CORR.	GMc	0.956	m
LONG. CENTER BUOYANCY	LCB	3.436	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.419	m
LONG. CENTER FLOTATION	LCF	-0.635	m +fwdMS	PROPELLER IMMERSION	P.I	129.5	%
MOMENT TO CHANGE TRIM	MCT	121.86	MT m / cm	AHEAD VISIBILITY	A.V	127.0	m
TONS PER CENTIMETRE	TPC	14.63	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.17 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.04	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.044	m	min	0.000	Stage 5 (BWT5_P-A)	PASS
3	Margin of Unprotected Opening	5.030	m	min	0.000	Stage 5 (DFLD 2P)	PASS
4	Angle of Protected Immersion	17.14	deg	min	3.04	Stage 5 (BWT5_P-A)	PASS
5	Angle of Unprotected Immersion	39.83	deg	min	3.04	Stage 5 (DFLD 2P)	PASS
6	Range of Stability	36.79	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.303	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0563	m rad	min	0.0175	Stage 4	PASS

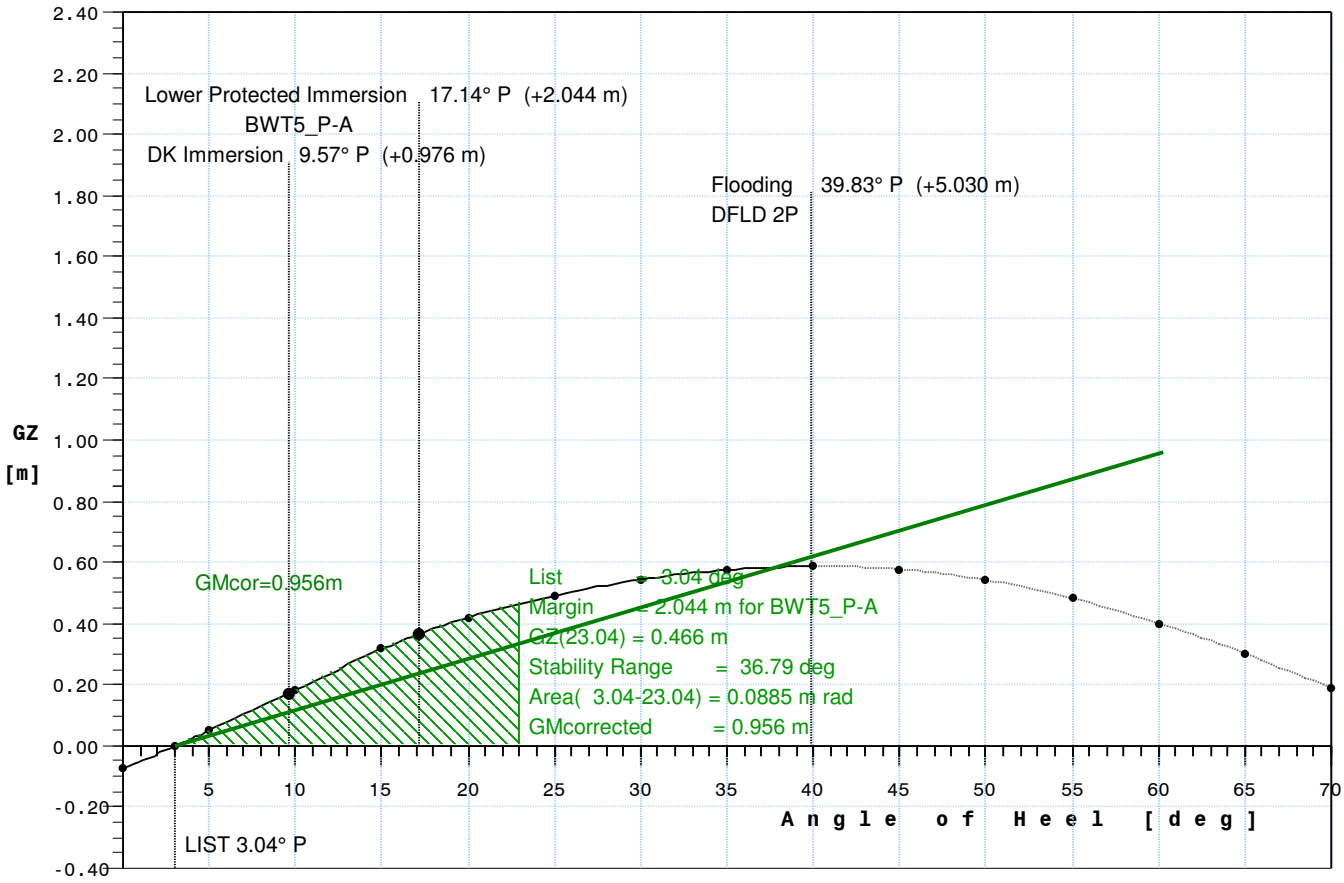
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
56	BOTTOM VOID	95.0	Flooded (0.95 perm)	11.89	11.60	-25.029	0.564	231.940
24	No.6 B.W.T.(P)	85.1	Flooded (0.95 perm)	209.76	204.64	-17.148	-5.558	1.981
9	No.5 C.O.T.(P)	74.0	Flooded (0.95 perm)	451.62	440.60	-16.231	-3.522	3.899
30	No.1 H.O.T.(P)	80.7	Flooded (0.95 perm)	117.36	114.50	-27.721	-5.711	3.428
55	PUMP ROOM	48.7	Flooded (0.95 perm)	240.14	234.28	-26.317	-0.132	3.735
11	SLOP TANK (P)	75.2	Flooded (0.95 perm)	84.11	82.06	-23.507	-3.498	3.944
	Damage Inflow			1114.87	1087.68	-20.428	-3.360	5.888

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.080	-3.201	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.086	3.150	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.817	-3.486	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.816	3.434	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.477	-3.489	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.476	3.436	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.873	-3.489	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.874	3.436	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.231	-3.522	3.899	358.78	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.224	3.436	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.507	-3.498	3.944	64.80	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.507	3.417	4.536	61.34	15.0	1.0000
	Cargo Total			4773.52	10.195	0.426	4.542	2969.34		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)	FLOODED						
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.17 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



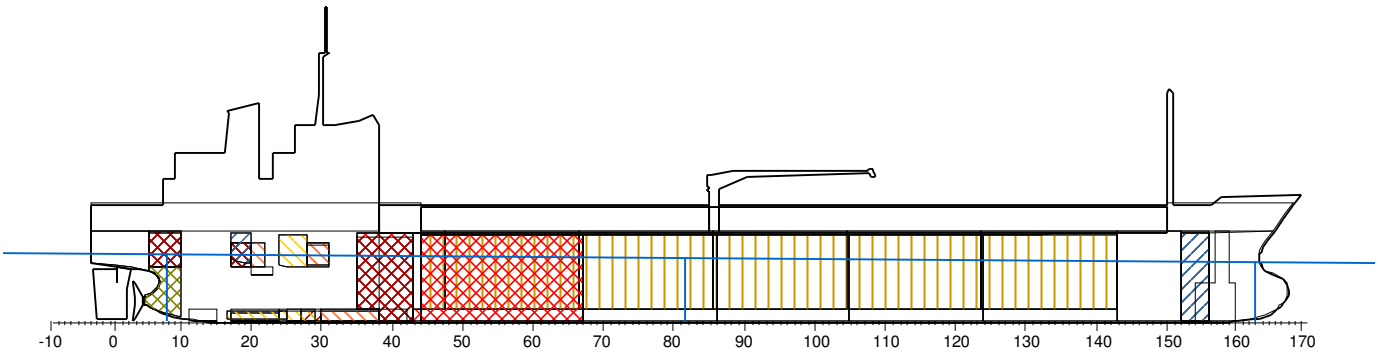
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	1.372A	6.186	3.464	0.371	4.962	-0.453	-0.074	0.000	2.483	5.380
3.04	1.425A	6.208	3.464	0.371	4.962	-0.108	0.000	0.000	2.044	5.030
5.00	1.444A	6.218	3.464	0.371	4.962	0.116	0.049	0.001	1.762	4.804
9.57	1.468A	6.238	3.464	0.371	4.962	0.643	0.169	0.009	1.106	4.269
10.00	1.470A	6.240	3.464	0.371	4.962	0.694	0.181	0.011	1.043	4.216
15.00	1.471A	6.260	3.464	0.371	4.962	1.272	0.316	0.033	0.321	3.607
17.14	1.439A	6.282	3.464	0.371	4.962	1.498	0.365	0.045	0.000	3.334
20.00	1.395A	6.313	3.464	0.371	4.962	1.808	0.419	0.065	-0.429	2.963
25.00	1.194A	6.411	3.464	0.371	4.962	2.299	0.492	0.105	-1.202	2.294
30.00	0.942A	6.558	3.464	0.371	4.962	2.755	0.544	0.150	-1.999	1.581
35.00	0.723A	6.768	3.464	0.371	4.962	3.173	0.575	0.199	-2.824	0.802
39.83	0.516A	7.043	3.464	0.371	4.962	3.534	0.586	0.248	-3.639	0.000
40.00	0.508A	7.054	3.464	0.371	4.962	3.548	0.586	0.250	-3.667	-0.028
45.00	0.291A	7.419	3.464	0.371	4.962	3.879	0.578	0.301	-4.508	-0.890
50.00	0.026A	7.875	3.464	0.371	4.962	4.157	0.543	0.350	-5.328	-1.757
55.00	0.301F	8.443	3.464	0.371	4.962	4.380	0.482	0.395	-6.111	-2.613
60.00	0.721F	9.177	3.464	0.371	4.962	4.551	0.400	0.434	-6.849	-3.452
65.00	1.289F	10.182	3.464	0.371	4.962	4.671	0.302	0.464	-7.538	-4.268
70.00	2.121F	11.660	3.464	0.371	4.962	4.746	0.191	0.486	-8.174	-5.055

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

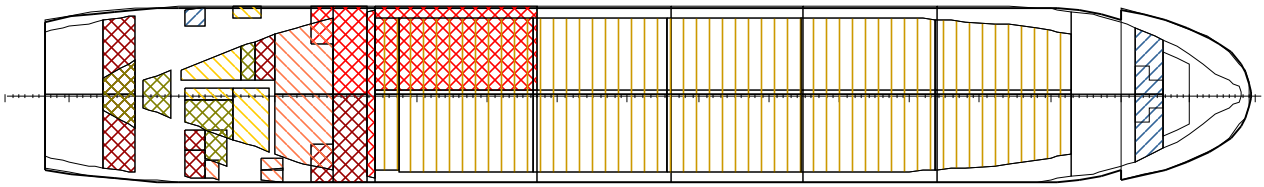
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.044	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.04P	deg	max 25.00	PASS	at completion of flooding
Stability Range	36.79	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.303	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0563	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.18 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.019	37883.5	-0.035	-187.8	4.541	24509.2	3370.25
Fuel	245.84	-36.550	-8985.3	3.263	802.1	5.054	1242.4	287.52
Diesel	62.55	-31.787	-1988.4	1.026	64.1	1.474	92.2	200.57
Lub. Oil	31.74	-37.318	-1184.6	-0.854	-27.1	1.341	42.6	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.850	-1017.3	0.093	2.0	2.958	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8466.92	1.932	16361.5	0.089	756.0	4.931	41748.1	3979.80
Outflow	130.73	-27.744	-3626.9	-5.777	-755.2	3.877	506.8	103.20
Inflow	337.75	-21.059	-7112.7	-5.394	-1821.7	10.560	3566.7	664.45

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8466.92	MT	TRANSVERSE METACENTRE	KM	6.470	m
DRAFT CORRESPONDING	Tcf	6.135	m	VERT. CENTER OF GRAVITY	KG	4.931	m
DRAFT F.P.	Tfp	5.589	m	METACENTRIC HEIGHT	GM	1.516	m
DRAFT A.P.	Tap	6.650	m	FREE SURFACE MOMENT	FSM	3979.80	MT m
DRAFT MEAN	Tms	6.120	m	FREE SURFACE CORRECTION	GGc	0.470	m
TRIM	trim	1.061	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.053	m
LONG. CENTER BUOYANCY	LCB	1.912	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.401	m
LONG. CENTER FLOTATION	LCF	-2.016	m +fwdMS	PROPELLER IMMERSION	P.I	122.5	%
MOMENT TO CHANGE TRIM	MCT	124.59	MT m / cm	AHEAD VISIBILITY	A.V	116.9	m
TONS PER CENTIMETRE	TPC	15.93	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.18 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	4.11	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.017	m	min	0.000	Stage 5 (BWT5_P-A)	PASS
3	Margin of Unprotected Opening	5.120	m	min	0.000	Stage 5 (DFLD 2P)	PASS
4	Angle of Protected Immersion	18.44	deg	min	4.11	Stage 5 (BWT5_P-A)	PASS
5	Angle of Unprotected Immersion	42.79	deg	min	4.11	Stage 5 (DFLD 2P)	PASS
6	Range of Stability	38.68	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.336	m	min	0.100	Stage 3	PASS
8	GZ Area (20 deg range)	0.0608	m rad	min	0.0175	Stage 3	PASS

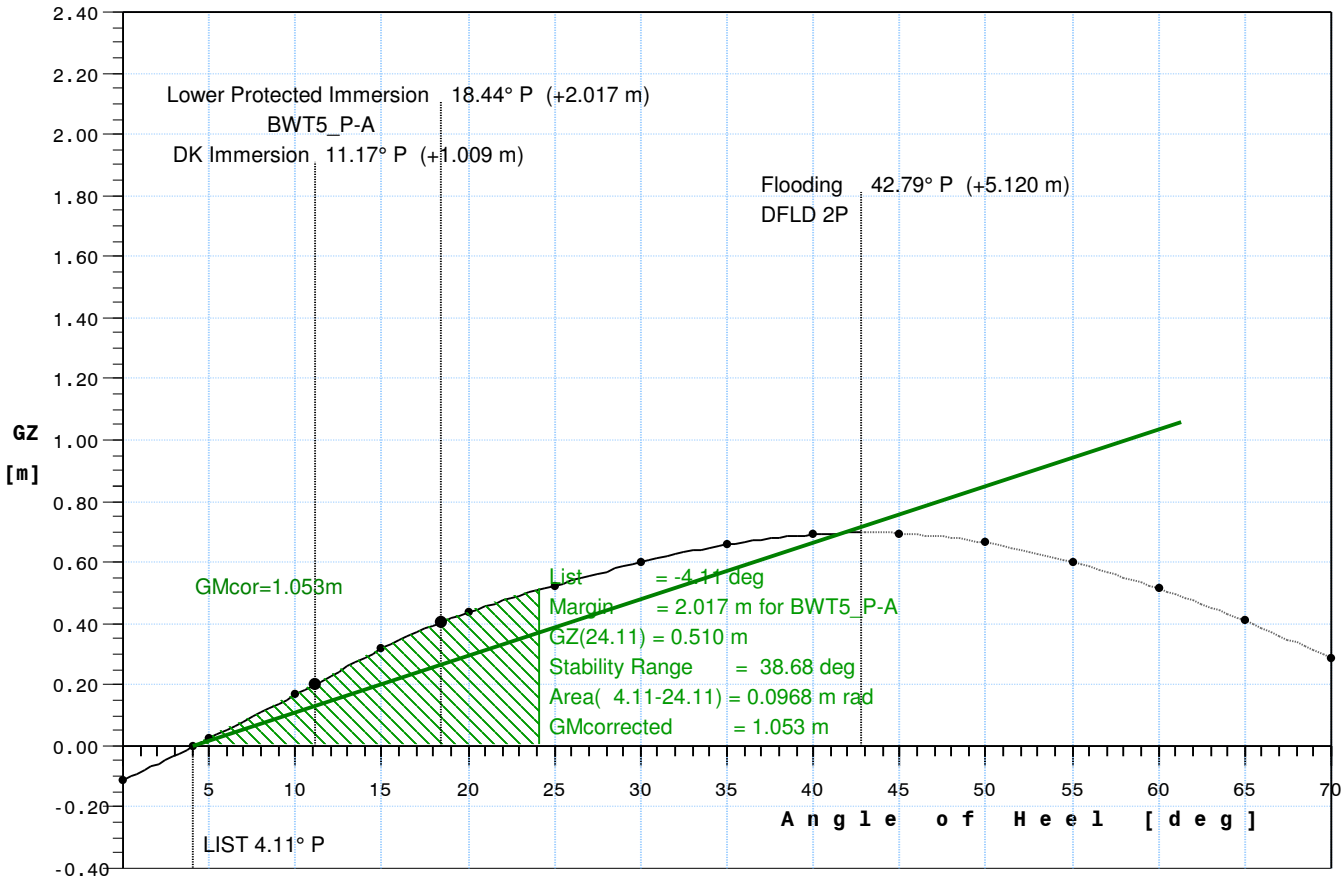
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
56	BOTTOM VOID	95.0	Flooded (0.95 perm)	11.89	11.60	-25.029	0.564	231.940
24	No.6 B.W.T.(P)	85.0	Flooded (0.95 perm)	209.64	204.52	-17.143	-5.557	1.978
30	No.1 H.O.T.(P)	79.9	Flooded (0.95 perm)	116.22	113.38	-27.717	-5.708	3.394
	Damage Inflow			337.75	329.51	-21.059	-5.394	10.560

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.087	-3.208	4.569	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.094	3.140	4.569	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.823	-3.494	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.822	3.424	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.484	-3.497	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.482	3.427	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.866	-3.497	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.868	3.427	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.216	-3.497	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.218	3.427	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.477	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.507	3.407	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.019	-0.035	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)	FLOODED						
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.18 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



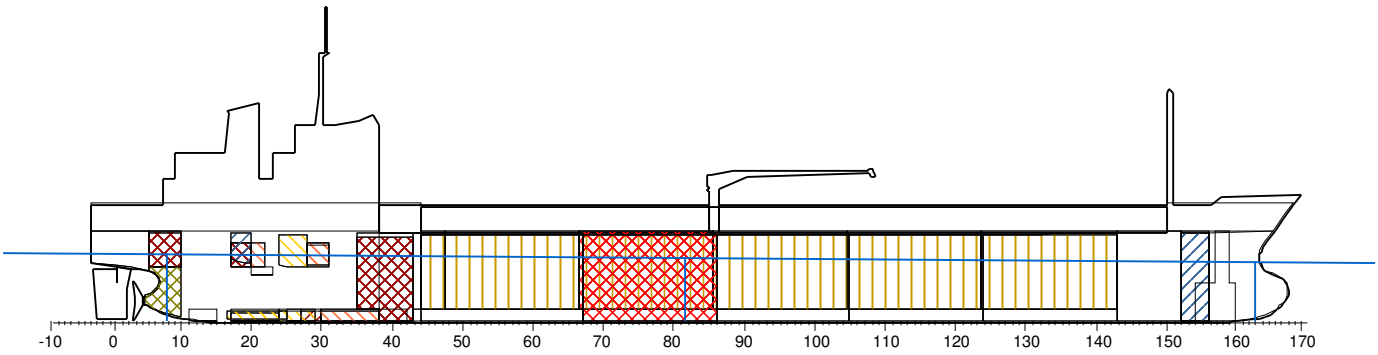
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	1.042A	6.112	1.932	0.089	4.931	-0.202	-0.111	0.000	2.586	5.560
4.11	1.061A	6.120	1.932	0.089	4.931	0.264	0.000	0.000	2.017	5.120
5.00	1.061A	6.121	1.932	0.089	4.931	0.366	0.025	0.000	1.893	5.022
10.00	1.043A	6.122	1.932	0.089	4.931	0.937	0.166	0.008	1.196	4.466
11.17	1.032A	6.121	1.932	0.089	4.931	1.069	0.201	0.012	1.033	4.334
15.00	0.996A	6.119	1.932	0.089	4.931	1.511	0.316	0.030	0.497	3.890
18.44	0.908A	6.136	1.932	0.089	4.931	1.876	0.404	0.051	0.000	3.474
20.00	0.867A	6.144	1.932	0.089	4.931	2.046	0.437	0.063	-0.226	3.280
25.00	0.614A	6.214	1.932	0.089	4.931	2.535	0.524	0.105	-0.978	2.640
30.00	0.269A	6.325	1.932	0.089	4.931	2.997	0.600	0.154	-1.747	1.968
35.00	0.081F	6.492	1.932	0.089	4.931	3.422	0.657	0.209	-2.542	1.237
40.00	0.447F	6.727	1.932	0.089	4.931	3.802	0.690	0.268	-3.354	0.454
42.79	0.662F	6.891	1.932	0.089	4.931	3.978	0.697	0.302	-3.810	0.000
45.00	0.848F	7.031	1.932	0.089	4.931	4.129	0.695	0.329	-4.165	-0.360
50.00	1.328F	7.411	1.932	0.089	4.931	4.393	0.663	0.388	-4.955	-1.182
55.00	1.911F	7.887	1.932	0.089	4.931	4.598	0.601	0.443	-5.712	-2.001
60.00	2.655F	8.506	1.932	0.089	4.931	4.747	0.514	0.492	-6.429	-2.809
65.00	3.665F	9.354	1.932	0.089	4.931	4.846	0.408	0.533	-7.101	-3.599
70.00	5.142F	10.602	1.932	0.089	4.931	4.897	0.290	0.563	-7.722	-4.364

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

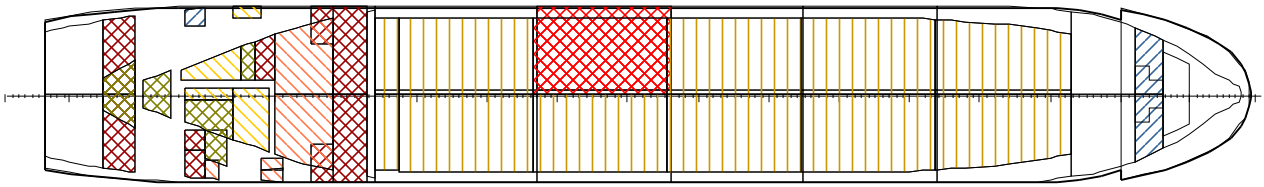
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.017	m	min 0.000	PASS	at completion of flooding
Angle of Heel	4.11P	deg	max 25.00	PASS	at completion of flooding
Stability Range	38.68	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.336	m	min 0.100	PASS	at 60.0 % of flooding
Area under 20 degrees range	0.0608	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.19 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4870.06	8.200	39936.3	0.358	1745.3	4.541	22114.3	3030.67
Fuel	376.57	-33.493	-12612.4	0.134	50.5	4.645	1749.0	390.72
Diesel	62.55	-31.786	-1988.3	1.041	65.1	1.473	92.1	200.57
Lub. Oil	31.74	-37.313	-1184.4	-0.839	-26.6	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.846	-1017.2	0.105	2.3	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8070.64	1.829	14763.6	0.226	1825.8	4.940	39865.5	3743.42
Outflow	527.01	-3.850	-2029.0	-3.463	-1825.1	4.534	2389.4	339.58
Inflow	584.05	-3.773	-2203.6	-4.080	-2383.2	3.136	1831.4	832.79

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8070.64	MT	TRANSVERSE METACENTRE	KM	6.770	m
DRAFT CORRESPONDING	Tcf	6.044	m	VERT. CENTER OF GRAVITY	KG	4.940	m
DRAFT F.P.	Tfp	5.621	m	METACENTRIC HEIGHT	GM	1.718	m
DRAFT A.P.	Tap	6.450	m	FREE SURFACE MOMENT	FSM	3743.42	MT m
DRAFT MEAN	Tms	6.035	m	FREE SURFACE CORRECTION	GGc	0.464	m
TRIM	trim	0.829	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.282	m
LONG. CENTER BUOYANCY	LCB	1.815	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.403	m
LONG. CENTER FLOTATION	LCF	-2.090	m +fwdMS	PROPELLER IMMERSION	P.I	117.3	%
MOMENT TO CHANGE TRIM	MCT	123.87	MT m / cm	AHEAD VISIBILITY	A.V	111.6	m
TONS PER CENTIMETRE	TPC	15.19	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.19 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.90	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.296	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.511	m	min	0.000	Stage 5 (DFLD 2P)	PASS
4	Angle of Protected Immersion	18.09	deg	min	1.90	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	43.50	deg	min	1.90	Stage 5 (DFLD 2P)	PASS
6	Range of Stability	41.61	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.468	m	min	0.100	Stage 2	PASS
8	GZ Area (20 deg range)	0.0836	m rad	min	0.0175	Stage 2	PASS

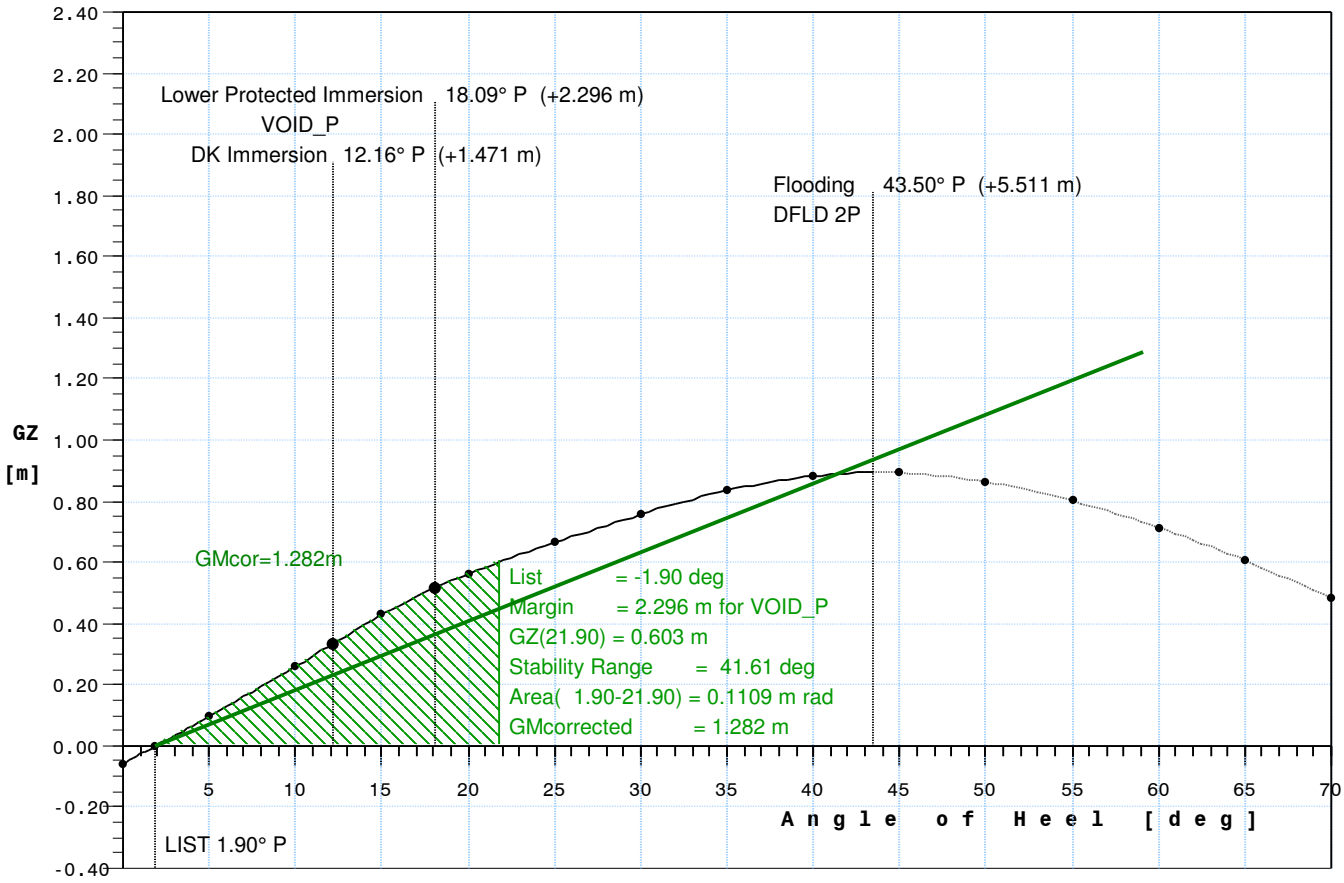
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
22	No.5 B.W.T.(P)	81.7	Flooded (0.95 perm)	167.69	163.60	-3.533	-5.496	1.768
7	No.4 C.O.T.(P)	68.2	Flooded (0.95 perm)	416.36	406.21	-3.870	-3.510	3.687
	Damage Inflow			584.05	569.80	-3.773	-4.080	3.136

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.091	-3.191	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.096	3.159	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	-3.477	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	3.444	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	-3.479	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	3.447	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.870	-3.510	3.687	358.78	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.864	3.447	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	-3.479	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	3.447	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.460	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.427	4.535	61.34	15.0	1.0000
	Cargo Total			4870.06	8.200	0.358	4.541	3030.67		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)	FLOODED						
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.19 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



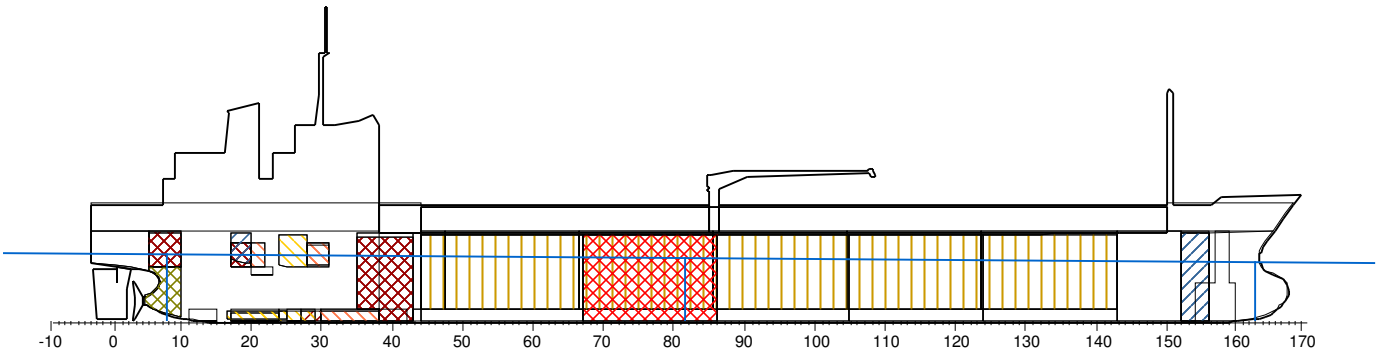
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.829A	6.026	1.829	0.226	4.940	-0.288	-0.058	0.000	2.566	5.713
1.90	0.829A	6.035	1.829	0.226	4.940	-0.063	0.000	0.000	2.296	5.511
5.00	0.815A	6.045	1.829	0.226	4.940	0.308	0.097	0.003	1.856	5.175
10.00	0.764A	6.055	1.829	0.226	4.940	0.910	0.259	0.018	1.151	4.620
12.16	0.731A	6.057	1.829	0.226	4.940	1.169	0.333	0.029	0.847	4.374
15.00	0.686A	6.059	1.829	0.226	4.940	1.516	0.428	0.048	0.448	4.042
18.09	0.598A	6.082	1.829	0.226	4.940	1.859	0.516	0.074	0.000	3.662
20.00	0.543A	6.096	1.829	0.226	4.940	2.076	0.562	0.092	-0.276	3.422
25.00	0.279A	6.178	1.829	0.226	4.940	2.590	0.664	0.145	-1.012	2.768
30.00	0.083F	6.298	1.829	0.226	4.940	3.080	0.757	0.207	-1.752	2.088
35.00	0.469F	6.471	1.829	0.226	4.940	3.537	0.835	0.277	-2.514	1.355
40.00	0.878F	6.712	1.829	0.226	4.940	3.942	0.882	0.352	-3.297	0.571
43.50	1.195F	6.925	1.829	0.226	4.940	4.176	0.894	0.406	-3.848	0.000
45.00	1.341F	7.024	1.829	0.226	4.940	4.284	0.893	0.430	-4.079	-0.243
50.00	1.897F	7.410	1.829	0.226	4.940	4.558	0.863	0.507	-4.840	-1.065
55.00	2.577F	7.893	1.829	0.226	4.940	4.770	0.801	0.580	-5.567	-1.882
60.00	3.449F	8.517	1.829	0.226	4.940	4.925	0.714	0.646	-6.255	-2.688
65.00	4.634F	9.369	1.829	0.226	4.940	5.028	0.607	0.704	-6.897	-3.475
70.00	6.368F	10.625	1.829	0.226	4.940	5.081	0.485	0.751	-7.489	-4.238

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

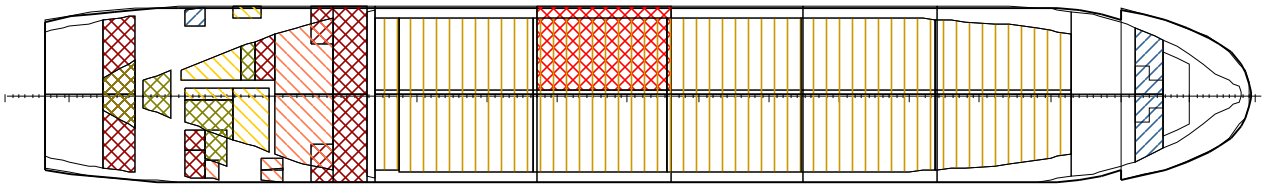
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.296	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.90P	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.61	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.468	m	min 0.100	PASS	at 40.0 % of flooding
Area under 20 degrees range	0.0836	m rad	min 0.0175	PASS	at 40.0 % of flooding

No.20 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.022	37900.1	-0.027	-145.8	4.541	24506.4	3370.25
Fuel	376.57	-33.493	-12612.4	0.126	47.4	4.645	1749.1	390.72
Diesel	62.55	-31.786	-1988.3	1.030	64.5	1.473	92.2	200.57
Lub. Oil	31.74	-37.315	-1184.5	-0.849	-26.9	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.847	-1017.2	0.098	2.1	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	170.71	-3.533	-603.1	-5.533	-944.5	1.850	315.8	474.01

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.803	m
DRAFT CORRESPONDING	Tcf	6.121	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.685	m	METACENTRIC HEIGHT	GM	1.889	m
DRAFT A.P.	Tap	6.522	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.103	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.837	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.414	m
LONG. CENTER BUOYANCY	LCB	1.468	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.276	m +fwdMS	PROPELLER IMMERSION	P.I	119.2	%
MOMENT TO CHANGE TRIM	MCT	124.84	MT m / cm	AHEAD VISIBILITY	A.V	110.7	m
TONS PER CENTIMETRE	TPC	16.07	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.20 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.14	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.053	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.310	m	min	0.000	Stage 5 (DFLD_2P)	PASS
4	Angle of Protected Immersion	17.96	deg	min	3.14	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	43.73	deg	min	3.14	Stage 5 (DFLD_2P)	PASS
6	Range of Stability	40.59	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.456	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0829	m rad	min	0.0175	Stage 3	PASS

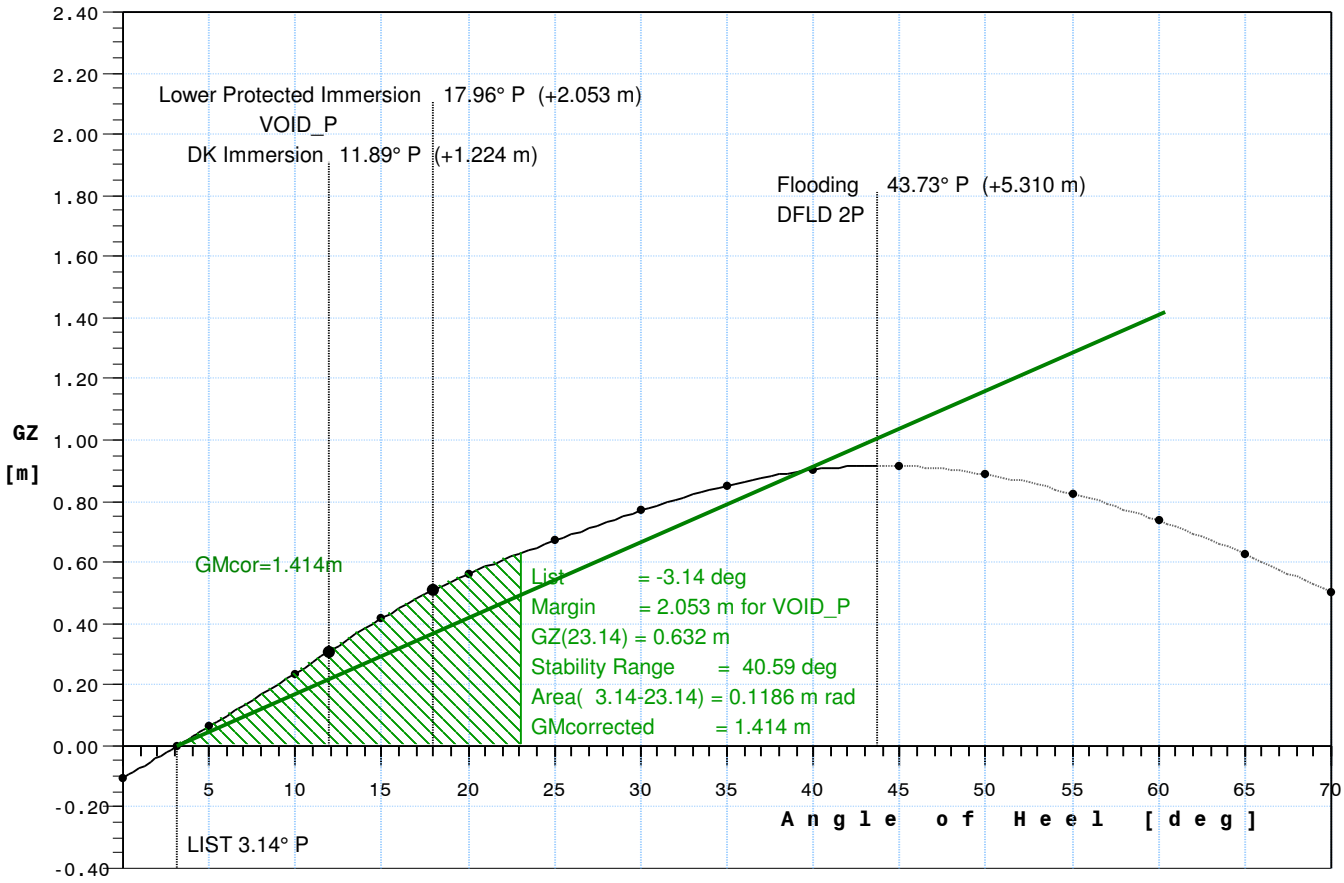
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
22	No.5 B.W.T.(P)	83.2	Flooded (0.95 perm)	170.71	166.54	-3.533	-5.533	1.850
	Damage Inflow			170.71	166.54	-3.533	-5.533	1.850

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.090	-3.201	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.097	3.149	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	-3.487	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.826	3.433	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	-3.490	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.486	3.436	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.864	-3.490	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.864	3.436	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	-3.490	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.214	3.436	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.470	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.416	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.022	-0.027	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)	FLOODED						
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.20 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



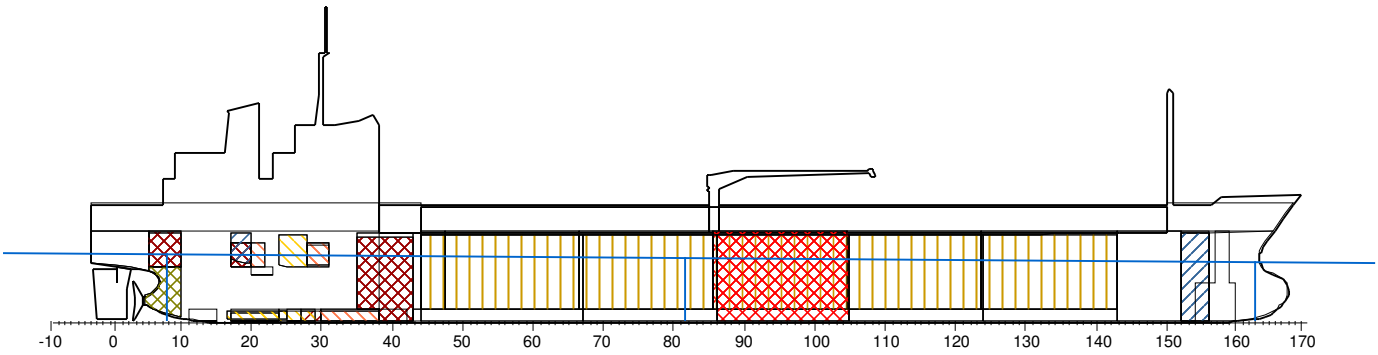
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.844A	6.101	1.481	0.000	4.915	-0.106	-0.106	0.000	2.488	5.633
3.14	0.837A	6.103	1.481	0.000	4.915	0.269	0.000	0.000	2.053	5.310
5.00	0.826A	6.103	1.481	0.000	4.915	0.492	0.063	0.001	1.796	5.115
10.00	0.773A	6.097	1.481	0.000	4.915	1.091	0.238	0.014	1.107	4.575
11.89	0.743A	6.093	1.481	0.000	4.915	1.314	0.307	0.023	0.848	4.367
15.00	0.693A	6.087	1.481	0.000	4.915	1.690	0.418	0.043	0.419	4.013
17.96	0.606A	6.100	1.481	0.000	4.915	2.014	0.508	0.067	0.000	3.659
20.00	0.544A	6.109	1.481	0.000	4.915	2.243	0.562	0.086	-0.288	3.409
25.00	0.278A	6.178	1.481	0.000	4.915	2.747	0.670	0.140	-1.012	2.769
30.00	0.085F	6.286	1.481	0.000	4.915	3.226	0.769	0.203	-1.741	2.099
35.00	0.475F	6.448	1.481	0.000	4.915	3.670	0.851	0.273	-2.494	1.376
40.00	0.888F	6.676	1.481	0.000	4.915	4.062	0.903	0.350	-3.267	0.601
43.73	1.229F	6.893	1.481	0.000	4.915	4.302	0.916	0.410	-3.847	0.000
45.00	1.355F	6.973	1.481	0.000	4.915	4.391	0.916	0.430	-4.041	-0.204
50.00	1.916F	7.344	1.481	0.000	4.915	4.652	0.887	0.509	-4.794	-1.018
55.00	2.599F	7.808	1.481	0.000	4.915	4.851	0.825	0.584	-5.516	-1.830
60.00	3.475F	8.413	1.481	0.000	4.915	4.992	0.736	0.652	-6.200	-2.632
65.00	4.664F	9.242	1.481	0.000	4.915	5.081	0.627	0.712	-6.840	-3.417
70.00	6.404F	10.462	1.481	0.000	4.915	5.121	0.503	0.761	-7.431	-4.179

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

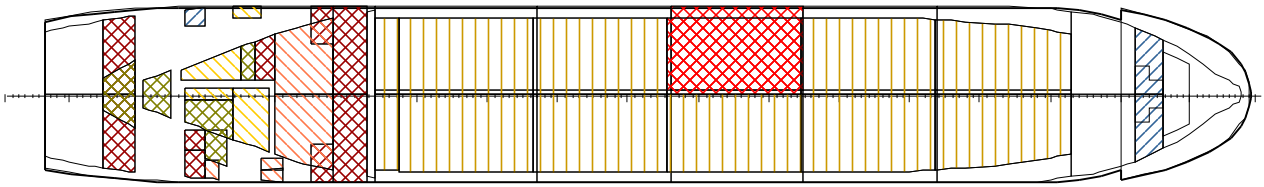
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.053	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.14P	deg	max 25.00	PASS	at completion of flooding
Stability Range	40.59	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.456	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0829	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.21 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4870.06	6.865	33431.8	0.360	1751.1	4.541	22114.1	3030.67
Fuel	376.57	-33.493	-12612.3	0.135	50.8	4.645	1749.0	390.72
Diesel	62.55	-31.786	-1988.3	1.043	65.2	1.473	92.1	200.57
Lub. Oil	31.74	-37.313	-1184.4	-0.838	-26.6	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.845	-1017.1	0.105	2.3	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8070.64	1.023	8255.0	0.226	1825.8	4.940	39865.5	3743.42
Outflow	527.01	8.500	4479.6	-3.463	-1825.1	4.534	2389.4	339.58
Inflow	573.76	8.579	4922.1	-4.079	-2340.3	3.082	1768.2	832.79

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8070.64	MT	TRANSVERSE METACENTRE	KM	6.763	m
DRAFT CORRESPONDING	Tcf	6.044	m	VERT. CENTER OF GRAVITY	KG	4.940	m
DRAFT F.P.	Tfp	5.642	m	METACENTRIC HEIGHT	GM	1.712	m
DRAFT A.P.	Tap	6.419	m	FREE SURFACE MOMENT	FSM	3743.42	MT m
DRAFT MEAN	Tms	6.030	m	FREE SURFACE CORRECTION	GGc	0.464	m
TRIM	trim	0.777	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.277	m
LONG. CENTER BUOYANCY	LCB	1.010	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.403	m
LONG. CENTER FLOTATION	LCF	-2.837	m +fwdMS	PROPELLER IMMERSION	P.I	116.5	%
MOMENT TO CHANGE TRIM	MCT	122.46	MT m / cm	AHEAD VISIBILITY	A.V	110.3	m
TONS PER CENTIMETRE	TPC	15.17	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.21 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.76	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.332	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.547	m	min	0.000	Stage 5 (DFLD_2P)	PASS
4	Angle of Protected Immersion	18.36	deg	min	1.76	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	44.02	deg	min	1.76	Stage 5 (DFLD_2P)	PASS
6	Range of Stability	42.26	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.469	m	min	0.100	Stage 2	PASS
8	GZ Area (20 deg range)	0.0837	m rad	min	0.0175	Stage 2	PASS

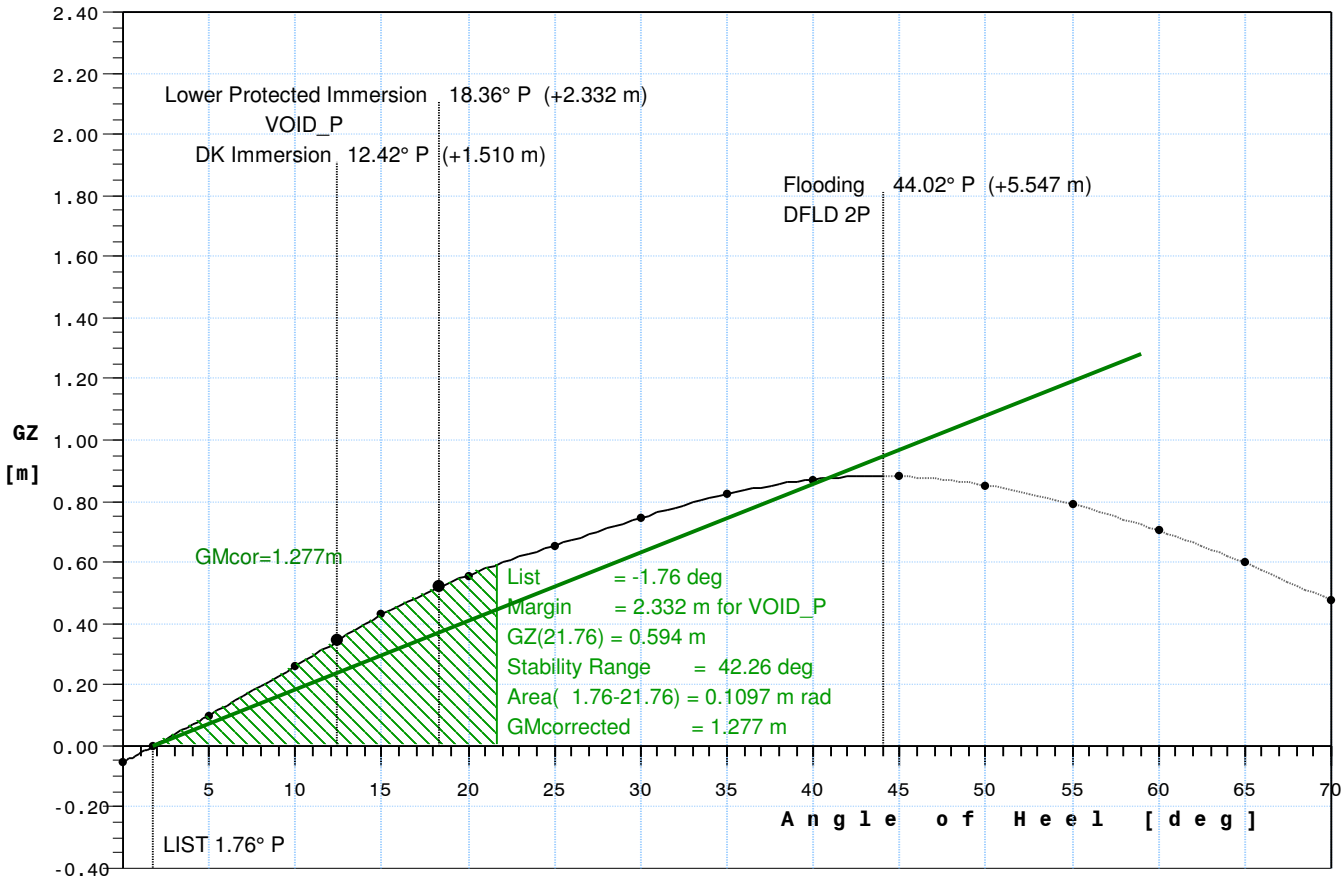
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
20	No.4 B.W.T.(P)	81.0	Flooded (0.95 perm)	166.24	162.19	8.818	-5.478	1.729
5	No.3 C.O.T.(P)	66.7	Flooded (0.95 perm)	407.52	397.58	8.481	-3.508	3.634
	Damage Inflow			573.76	559.77	8.579	-4.079	3.082

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.092	-3.190	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.096	3.160	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	-3.476	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	3.445	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.481	-3.508	3.634	358.78	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.487	3.448	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.863	-3.478	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.863	3.448	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.213	-3.478	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.213	3.448	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.458	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.428	4.535	61.34	15.0	1.0000
	Cargo Total			4870.06	6.865	0.360	4.541	3030.67		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)	FLOODED						
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.21 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



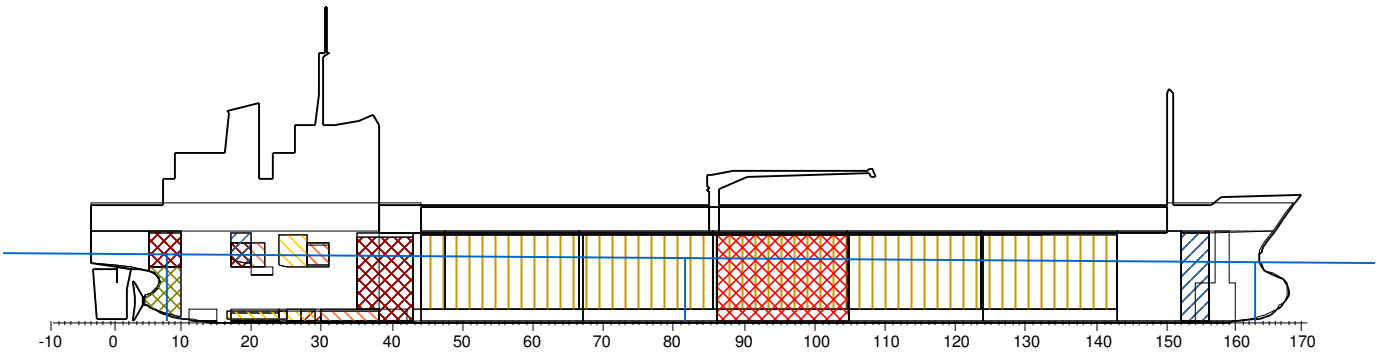
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.794A	6.021	1.023	0.226	4.940	-0.284	-0.054	0.000	2.579	5.729
1.76	0.777A	6.030	1.023	0.226	4.940	-0.075	0.000	0.000	2.332	5.547
5.00	0.740A	6.041	1.023	0.226	4.940	0.312	0.100	0.003	1.878	5.203
10.00	0.653A	6.052	1.023	0.226	4.940	0.913	0.261	0.019	1.179	4.657
12.42	0.597A	6.055	1.023	0.226	4.940	1.201	0.343	0.031	0.844	4.387
15.00	0.536A	6.058	1.023	0.226	4.940	1.516	0.428	0.049	0.483	4.090
18.36	0.415A	6.084	1.023	0.226	4.940	1.886	0.520	0.077	0.000	3.681
20.00	0.353A	6.098	1.023	0.226	4.940	2.071	0.558	0.092	-0.235	3.477
25.00	0.056A	6.184	1.023	0.226	4.940	2.580	0.655	0.145	-0.969	2.828
30.00	0.335F	6.306	1.023	0.226	4.940	3.068	0.745	0.206	-1.707	2.151
35.00	0.763F	6.480	1.023	0.226	4.940	3.525	0.823	0.275	-2.464	1.425
40.00	1.224F	6.721	1.023	0.226	4.940	3.929	0.870	0.349	-3.241	0.648
44.02	1.643F	6.969	1.023	0.226	4.940	4.199	0.882	0.410	-3.868	0.000
45.00	1.754F	7.034	1.023	0.226	4.940	4.271	0.881	0.426	-4.018	-0.158
50.00	2.386F	7.422	1.023	0.226	4.940	4.546	0.852	0.501	-4.773	-0.972
55.00	3.158F	7.905	1.023	0.226	4.940	4.758	0.790	0.573	-5.496	-1.784
60.00	4.145F	8.531	1.023	0.226	4.940	4.915	0.704	0.639	-6.179	-2.584
65.00	5.486F	9.387	1.023	0.226	4.940	5.018	0.598	0.696	-6.819	-3.368
70.00	7.448F	10.649	1.023	0.226	4.940	5.072	0.477	0.742	-7.410	-4.129

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

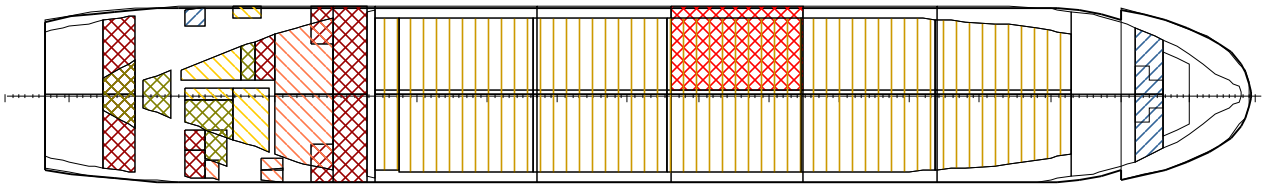
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.332	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.76P	deg	max 25.00	PASS	at completion of flooding
Stability Range	42.26	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.469	m	min 0.100	PASS	at 40.0 % of flooding
Area under 20 degrees range	0.0837	m rad	min 0.0175	PASS	at 40.0 % of flooding

No.22 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.025	37914.8	-0.027	-145.6	4.541	24506.2	3370.25
Fuel	376.57	-33.493	-12612.2	0.126	47.4	4.645	1749.1	390.72
Diesel	62.55	-31.784	-1988.2	1.030	64.5	1.473	92.2	200.57
Lub. Oil	31.74	-37.313	-1184.4	-0.849	-26.9	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.846	-1017.2	0.098	2.1	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	169.62	8.819	1495.9	-5.520	-936.3	1.820	308.8	474.01

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.792	m
DRAFT CORRESPONDING	Tcf	6.120	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.772	m	METACENTRIC HEIGHT	GM	1.877	m
DRAFT A.P.	Tap	6.440	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.106	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.668	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.402	m
LONG. CENTER BUOYANCY	LCB	1.470	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.248	m +fwdMS	PROPELLER IMMERSION	P.I	117.1	%
MOMENT TO CHANGE TRIM	MCT	123.91	MT m / cm	AHEAD VISIBILITY	A.V	106.0	m
TONS PER CENTIMETRE	TPC	16.03	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.22 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.13	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.092	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.362	m	min	0.000	Stage 5 (DFLD_2P)	PASS
4	Angle of Protected Immersion	18.26	deg	min	3.13	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	44.16	deg	min	3.13	Stage 5 (DFLD_2P)	PASS
6	Range of Stability	41.03	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.451	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0823	m rad	min	0.0175	Stage 3	PASS

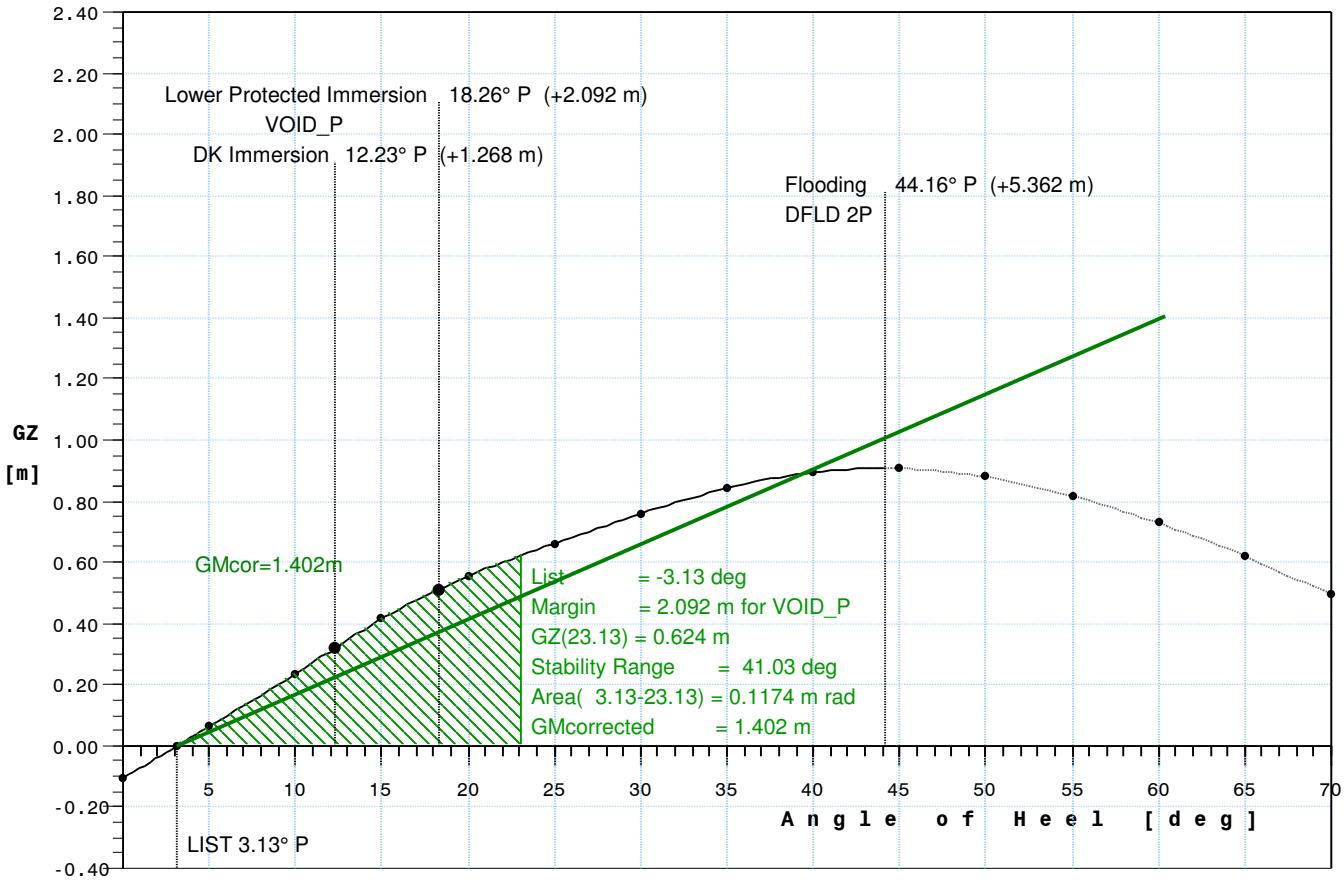
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
20	No.4 B.W.T.(P)	82.6	Flooded (0.95 perm)	169.62	165.49	8.819	-5.520	1.820
	Damage Inflow			169.62	165.49	8.819	-5.520	1.820

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.093	-3.201	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.100	3.149	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.829	-3.487	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.829	3.433	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.489	-3.490	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.489	3.436	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.861	-3.490	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.861	3.436	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.211	-3.490	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.211	3.436	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.470	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.416	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.025	-0.027	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)	FLOODED						
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.22 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



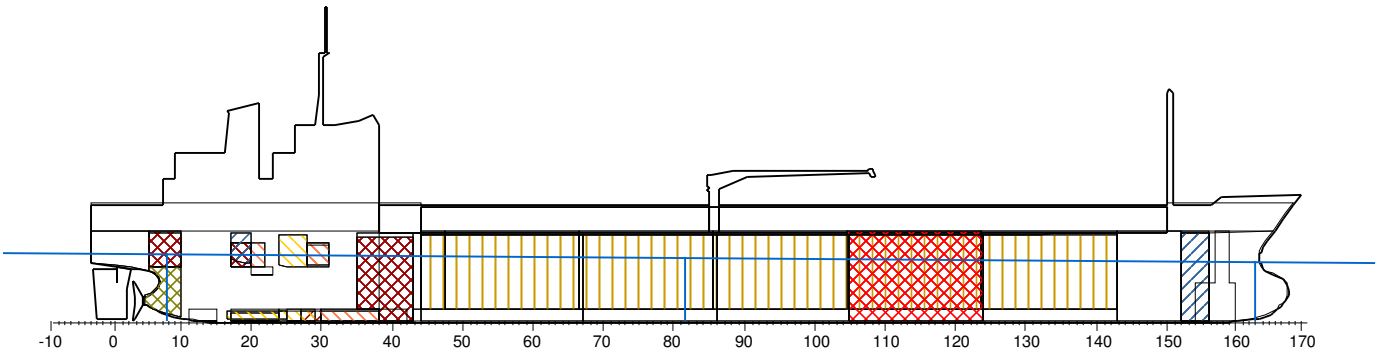
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.681A	6.104	1.481	0.000	4.915	-0.105	-0.105	0.000	2.523	5.682
3.13	0.668A	6.106	1.481	0.000	4.915	0.268	0.000	0.000	2.092	5.362
5.00	0.653A	6.106	1.481	0.000	4.915	0.491	0.063	0.001	1.834	5.167
10.00	0.590A	6.100	1.481	0.000	4.915	1.089	0.236	0.014	1.147	4.630
12.23	0.548A	6.095	1.481	0.000	4.915	1.353	0.318	0.025	0.842	4.385
15.00	0.496A	6.090	1.481	0.000	4.915	1.687	0.415	0.043	0.462	4.071
18.26	0.391A	6.105	1.481	0.000	4.915	2.042	0.512	0.069	0.000	3.680
20.00	0.334A	6.114	1.481	0.000	4.915	2.236	0.555	0.085	-0.246	3.468
25.00	0.057A	6.184	1.481	0.000	4.915	2.738	0.661	0.138	-0.970	2.827
30.00	0.316F	6.293	1.481	0.000	4.915	3.216	0.759	0.200	-1.699	2.157
35.00	0.728F	6.453	1.481	0.000	4.915	3.661	0.842	0.270	-2.449	1.437
40.00	1.172F	6.681	1.481	0.000	4.915	4.053	0.894	0.346	-3.220	0.666
44.16	1.592F	6.925	1.481	0.000	4.915	4.323	0.908	0.412	-3.863	0.000
45.00	1.684F	6.979	1.481	0.000	4.915	4.382	0.907	0.425	-3.990	-0.135
50.00	2.297F	7.350	1.481	0.000	4.915	4.644	0.879	0.503	-4.740	-0.945
55.00	3.047F	7.817	1.481	0.000	4.915	4.843	0.817	0.578	-5.460	-1.753
60.00	4.011F	8.424	1.481	0.000	4.915	4.985	0.729	0.645	-6.142	-2.552
65.00	5.320F	9.256	1.481	0.000	4.915	5.074	0.620	0.704	-6.780	-3.334
70.00	7.236F	10.481	1.481	0.000	4.915	5.115	0.497	0.753	-7.370	-4.095

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

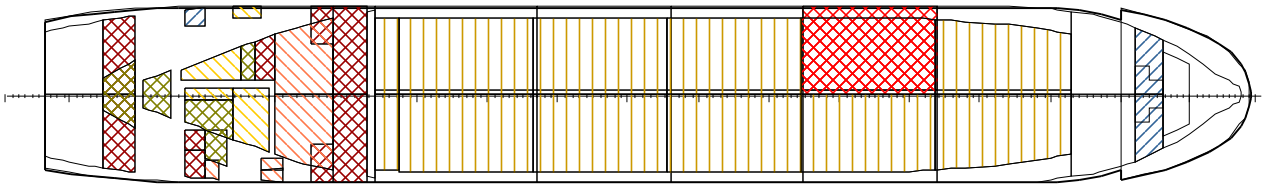
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.092	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.13P	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.03	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.451	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0823	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.23 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4870.61	5.532	26942.6	0.360	1753.2	4.541	22116.8	3032.02
Fuel	376.57	-33.493	-12612.3	0.136	51.2	4.644	1749.0	390.72
Diesel	62.55	-31.785	-1988.3	1.045	65.4	1.473	92.1	200.57
Lub. Oil	31.74	-37.312	-1184.4	-0.836	-26.5	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.845	-1017.1	0.106	2.3	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8071.19	0.218	1761.1	0.226	1822.2	4.940	39868.0	3744.77
Outflow	526.46	20.844	10973.5	-3.460	-1821.5	4.534	2386.9	338.24
Inflow	563.92	20.925	11800.2	-4.075	-2297.8	3.034	1711.1	827.43

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8071.19	MT	TRANSVERSE METACENTRE	KM	6.758	m
DRAFT CORRESPONDING	Tcf	6.044	m	VERT. CENTER OF GRAVITY	KG	4.940	m
DRAFT F.P.	Tfp	5.653	m	METACENTRIC HEIGHT	GM	1.707	m
DRAFT A.P.	Tap	6.397	m	FREE SURFACE MOMENT	FSM	3744.77	MT m
DRAFT MEAN	Tms	6.025	m	FREE SURFACE CORRECTION	GGc	0.464	m
TRIM	trim	0.744	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.272	m
LONG. CENTER BUOYANCY	LCB	0.205	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.404	m
LONG. CENTER FLOTATION	LCF	-3.601	m +fwdMS	PROPELLER IMMERSION	P.I	115.9	%
MOMENT TO CHANGE TRIM	MCT	118.17	MT m / cm	AHEAD VISIBILITY	A.V	109.4	m
TONS PER CENTIMETRE	TPC	15.16	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.23 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.63	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.363	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.575	m	min	0.000	Stage 5 (DFLD_2P)	PASS
4	Angle of Protected Immersion	18.62	deg	min	1.63	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	44.56	deg	min	1.63	Stage 5 (DFLD_2P)	PASS
6	Range of Stability	42.92	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.469	m	min	0.100	Stage 2	PASS
8	GZ Area (20 deg range)	0.0838	m rad	min	0.0175	Stage 2	PASS

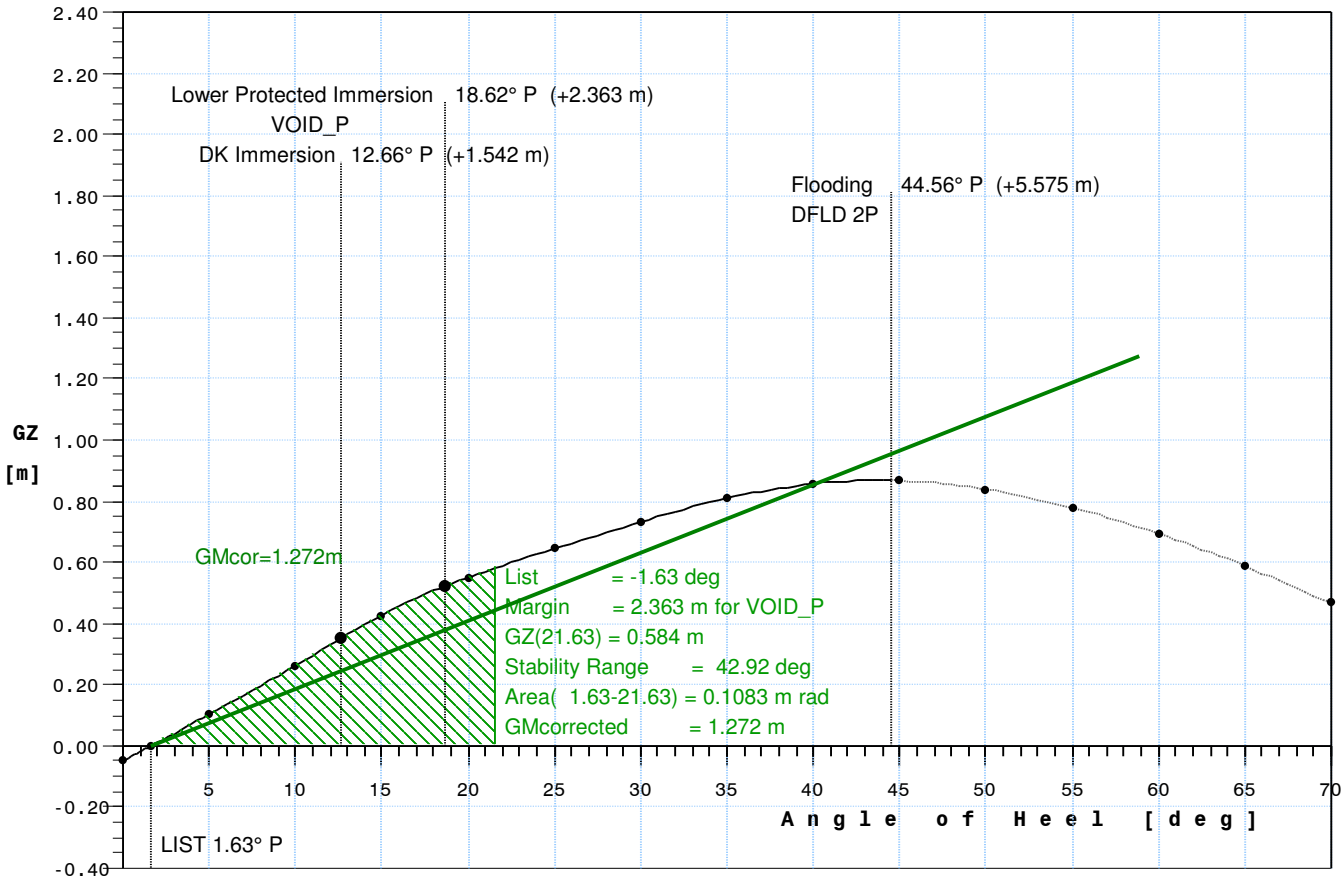
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
18	No.3 B.W.T.(P)	80.3	Flooded (0.95 perm)	164.97	160.95	21.181	-5.460	1.705
3	No.2 C.O.T.(P)	65.4	Flooded (0.95 perm)	398.95	389.22	20.820	-3.502	3.584
	Damage Inflow			563.92	550.16	20.925	-4.075	3.034

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.093	-3.189	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.097	3.161	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.820	-3.502	3.584	357.36	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.827	3.446	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.488	-3.477	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.488	3.449	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.862	-3.477	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.862	3.449	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.212	-3.477	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.212	3.449	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.457	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.429	4.535	61.34	15.0	1.0000
	Cargo Total			4870.61	5.532	0.360	4.541	3032.02		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)	FLOODED						
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.23 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



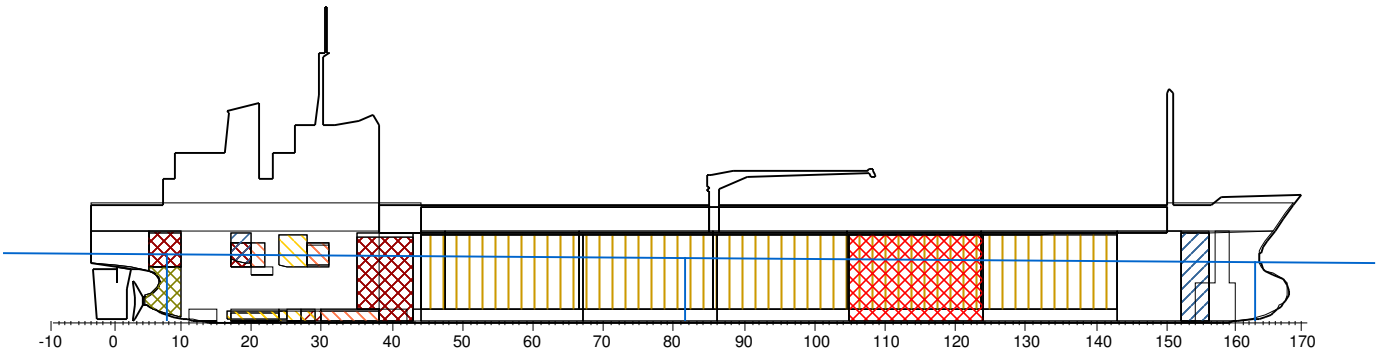
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.776A	6.016	0.218	0.226	4.940	-0.279	-0.050	0.000	2.589	5.740
1.63	0.744A	6.025	0.218	0.226	4.940	-0.085	0.000	0.000	2.363	5.575
5.00	0.679A	6.038	0.218	0.226	4.940	0.316	0.103	0.003	1.896	5.226
10.00	0.552A	6.051	0.218	0.226	4.940	0.914	0.262	0.019	1.204	4.691
12.66	0.468A	6.054	0.218	0.226	4.940	1.231	0.352	0.033	0.840	4.399
15.00	0.392A	6.058	0.218	0.226	4.940	1.515	0.427	0.049	0.516	4.134
18.62	0.227A	6.090	0.218	0.226	4.940	1.910	0.522	0.079	0.000	3.699
20.00	0.163A	6.102	0.218	0.226	4.940	2.065	0.552	0.092	-0.197	3.530
25.00	0.173F	6.192	0.218	0.226	4.940	2.569	0.644	0.144	-0.928	2.887
30.00	0.597F	6.317	0.218	0.226	4.940	3.054	0.732	0.204	-1.663	2.214
35.00	1.070F	6.492	0.218	0.226	4.940	3.510	0.809	0.272	-2.415	1.495
40.00	1.584F	6.734	0.218	0.226	4.940	3.915	0.857	0.345	-3.185	0.726
44.56	2.123F	7.017	0.218	0.226	4.940	4.224	0.867	0.414	-3.888	0.000
45.00	2.181F	7.047	0.218	0.226	4.940	4.256	0.867	0.420	-3.956	-0.071
50.00	2.886F	7.435	0.218	0.226	4.940	4.532	0.839	0.495	-4.705	-0.879
55.00	3.743F	7.918	0.218	0.226	4.940	4.747	0.779	0.566	-5.424	-1.684
60.00	4.845F	8.547	0.218	0.226	4.940	4.904	0.693	0.630	-6.104	-2.480
65.00	6.343F	9.408	0.218	0.226	4.940	5.008	0.588	0.686	-6.742	-3.261
70.00	8.533F	10.678	0.218	0.226	4.940	5.062	0.468	0.732	-7.331	-4.020

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.363	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.63P	deg	max 25.00	PASS	at completion of flooding
Stability Range	42.92	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.469	m	min 0.100	PASS	at 40.0 % of flooding
Area under 20 degrees range	0.0838	m rad	min 0.0175	PASS	at 40.0 % of flooding

No.24 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

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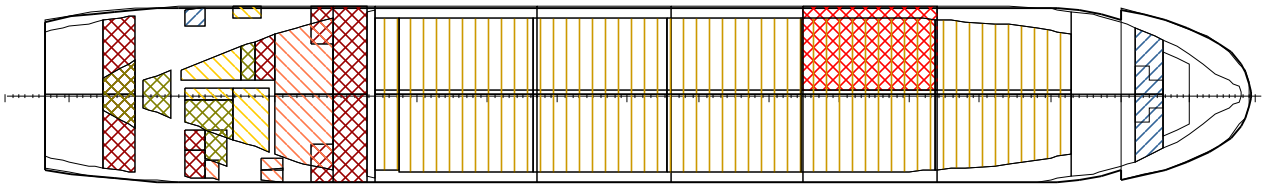


Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.028	37929.7	-0.027	-146.2	4.541	24506.2	3370.25
Fuel	376.57	-33.492	-12612.0	0.126	47.4	4.645	1749.1	390.72
Diesel	62.55	-31.783	-1988.1	1.030	64.5	1.473	92.2	200.57
Lub. Oil	31.74	-37.312	-1184.4	-0.849	-26.9	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.845	-1017.1	0.098	2.1	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	169.17	21.185	3583.8	-5.512	-932.4	1.818	307.5	470.08

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.779	m
DRAFT CORRESPONDING	Tcf	6.120	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.861	m	METACENTRIC HEIGHT	GM	1.864	m
DRAFT A.P.	Tap	6.358	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.109	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.497	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.389	m
LONG. CENTER BUOYANCY	LCB	1.473	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.216	m +fwdMS	PROPELLER IMMERSION	P.I	115.0	%
MOMENT TO CHANGE TRIM	MCT	122.61	MT m / cm	AHEAD VISIBILITY	A.V	101.5	m
TONS PER CENTIMETRE	TPC	16.00	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.24 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.14	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.127	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.412	m	min	0.000	Stage 5 (DFLD 2P)	PASS
4	Angle of Protected Immersion	18.56	deg	min	3.14	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	44.59	deg	min	3.14	Stage 5 (DFLD 2P)	PASS
6	Range of Stability	41.45	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.446	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0819	m rad	min	0.0175	Stage 3	PASS

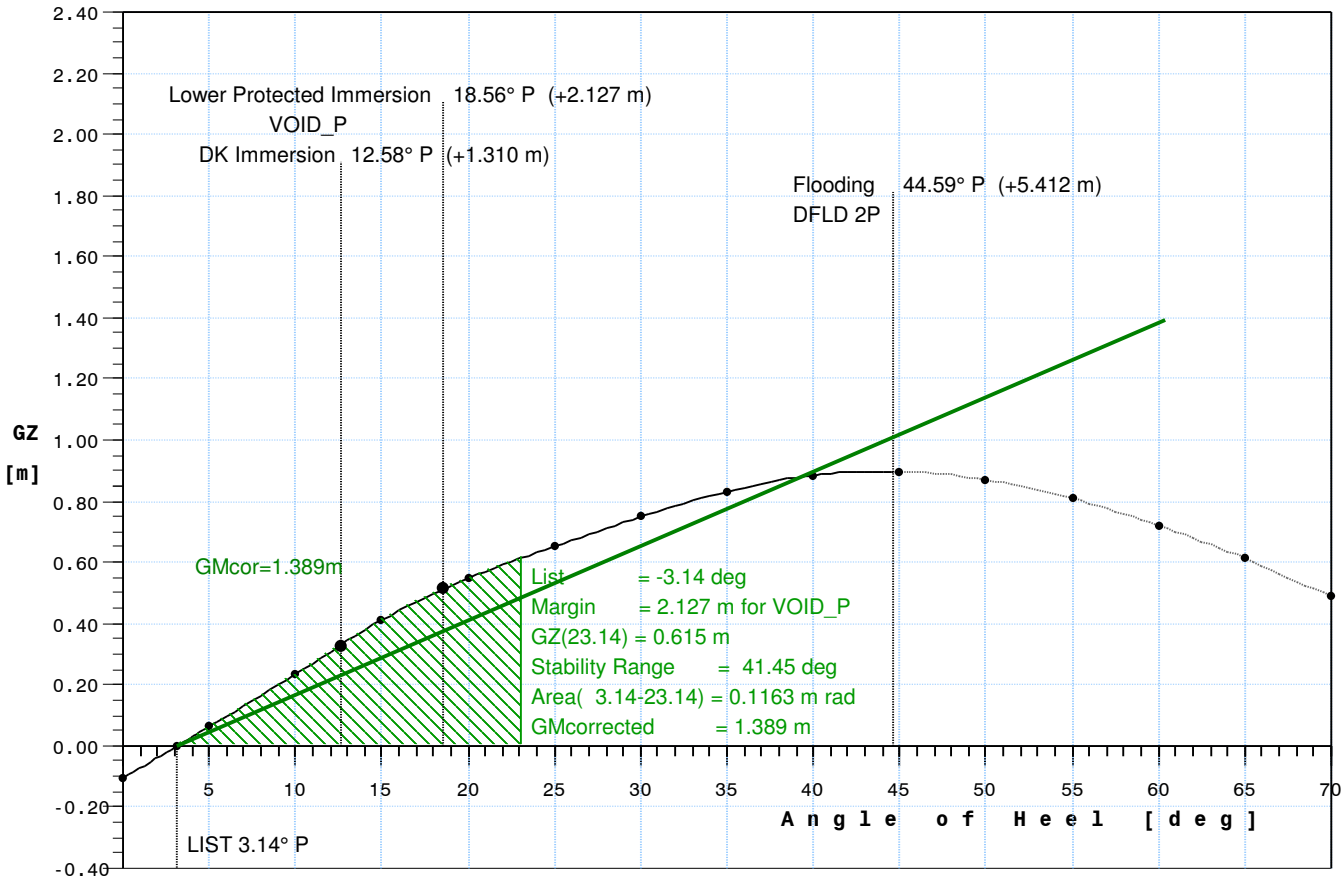
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
18	No.3 B.W.T.(P)	82.3	Flooded (0.95 perm)	169.17	165.04	21.185	-5.512	1.818
	Damage Inflow			169.17	165.04	21.185	-5.512	1.818

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.096	-3.201	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.103	3.148	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.832	-3.487	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.831	3.433	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.492	-3.490	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.492	3.436	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.858	-3.490	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.858	3.436	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.208	-3.490	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.208	3.436	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.470	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.416	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.028	-0.027	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)	FLOODED						
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.24 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



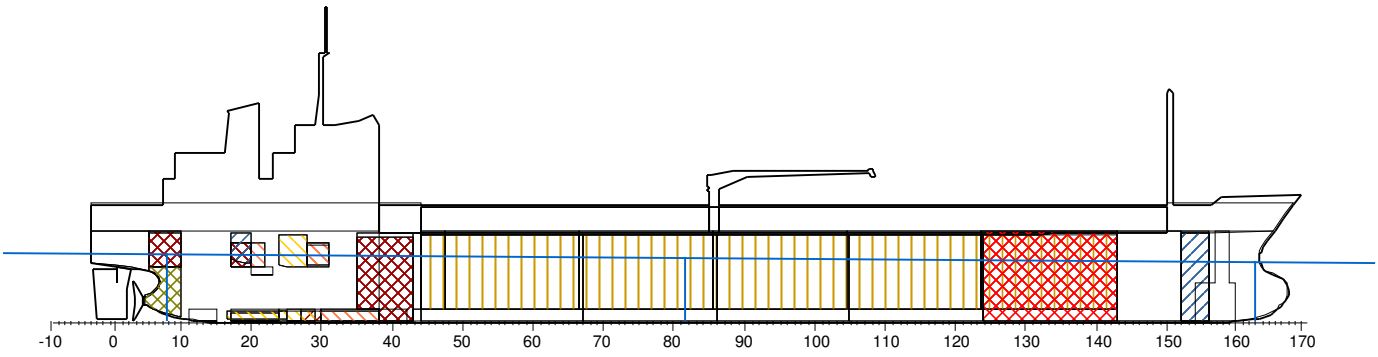
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.517A	6.107	1.481	0.000	4.915	-0.105	-0.104	0.000	2.559	5.732
3.14	0.497A	6.109	1.481	0.000	4.915	0.269	0.000	0.000	2.127	5.412
5.00	0.480A	6.109	1.481	0.000	4.915	0.491	0.062	0.001	1.872	5.219
10.00	0.405A	6.103	1.481	0.000	4.915	1.088	0.234	0.014	1.187	4.685
12.58	0.350A	6.098	1.481	0.000	4.915	1.392	0.328	0.027	0.835	4.402
15.00	0.297A	6.093	1.481	0.000	4.915	1.683	0.411	0.042	0.504	4.129
18.56	0.173A	6.111	1.481	0.000	4.915	2.069	0.514	0.071	0.000	3.703
20.00	0.121A	6.118	1.481	0.000	4.915	2.229	0.548	0.084	-0.203	3.527
25.00	0.165F	6.190	1.481	0.000	4.915	2.729	0.652	0.137	-0.928	2.886
30.00	0.547F	6.299	1.481	0.000	4.915	3.205	0.748	0.198	-1.658	2.215
35.00	0.982F	6.460	1.481	0.000	4.915	3.651	0.832	0.267	-2.405	1.499
40.00	1.458F	6.687	1.481	0.000	4.915	4.043	0.884	0.342	-3.173	0.731
44.59	1.965F	6.959	1.481	0.000	4.915	4.344	0.898	0.414	-3.878	0.000
45.00	2.014F	6.986	1.481	0.000	4.915	4.373	0.898	0.420	-3.940	-0.065
50.00	2.680F	7.358	1.481	0.000	4.915	4.635	0.870	0.498	-4.687	-0.871
55.00	3.498F	7.826	1.481	0.000	4.915	4.834	0.808	0.571	-5.404	-1.676
60.00	4.551F	8.436	1.481	0.000	4.915	4.977	0.721	0.638	-6.084	-2.472
65.00	5.981F	9.271	1.481	0.000	4.915	5.067	0.613	0.696	-6.720	-3.252
70.00	8.072F	10.503	1.481	0.000	4.915	5.108	0.490	0.744	-7.309	-4.011

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.127	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.14P	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.45	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.446	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0819	m rad	min 0.0175	PASS	at 60.0 % of flooding

No.25 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

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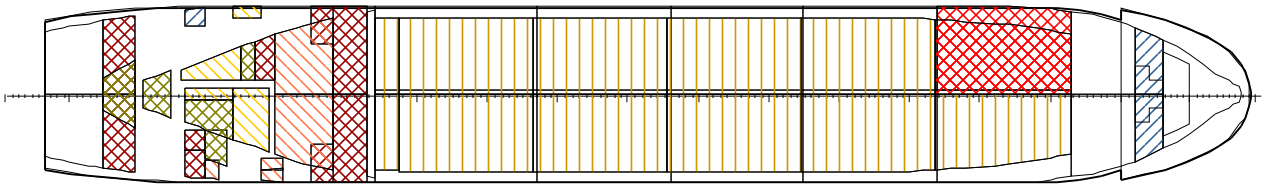


Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	4902.59	4.395	21545.9	0.307	1503.9	4.537	22244.6	3103.44
Fuel	376.57	-33.493	-12612.2	0.136	51.4	4.644	1749.0	390.72
Diesel	62.55	-31.785	-1988.2	1.046	65.4	1.473	92.1	200.57
Lub. Oil	31.74	-37.312	-1184.4	-0.835	-26.5	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.844	-1017.1	0.106	2.3	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8103.16	-0.449	-3637.0	0.194	1570.7	4.936	39996.2	3816.19
Outflow	494.49	33.108	16371.6	-3.175	-1569.9	4.568	2258.6	266.81
Inflow	528.88	33.203	17560.4	-3.828	-2024.6	3.065	1620.8	631.87

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8103.16	MT	TRANSVERSE METACENTRE	KM	6.755	m
DRAFT CORRESPONDING	Tcf	6.047	m	VERT. CENTER OF GRAVITY	KG	4.936	m
DRAFT F.P.	Tfp	5.668	m	METACENTRIC HEIGHT	GM	1.715	m
DRAFT A.P.	Tap	6.380	m	FREE SURFACE MOMENT	FSM	3816.19	MT m
DRAFT MEAN	Tms	6.024	m	FREE SURFACE CORRECTION	GGc	0.471	m
TRIM	trim	0.712	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.271	m
LONG. CENTER BUOYANCY	LCB	-0.461	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.407	m
LONG. CENTER FLOTATION	LCF	-4.345	m +fwdMS	PROPELLER IMMERSION	P.I	115.5	%
MOMENT TO CHANGE TRIM	MCT	111.08	MT m / cm	AHEAD VISIBILITY	A.V	108.6	m
TONS PER CENTIMETRE	TPC	15.15	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.25 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.56	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.381	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.594	m	min	0.000	Stage 0 (DFLD 2P)	PASS
4	Angle of Protected Immersion	18.88	deg	min	1.56	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	1.56	Stage 0 (DFLD 2P)	PASS
6	Range of Stability	43.20	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.478	m	min	0.100	Stage 2	PASS
8	GZ Area (20 deg range)	0.0856	m rad	min	0.0175	Stage 1	PASS

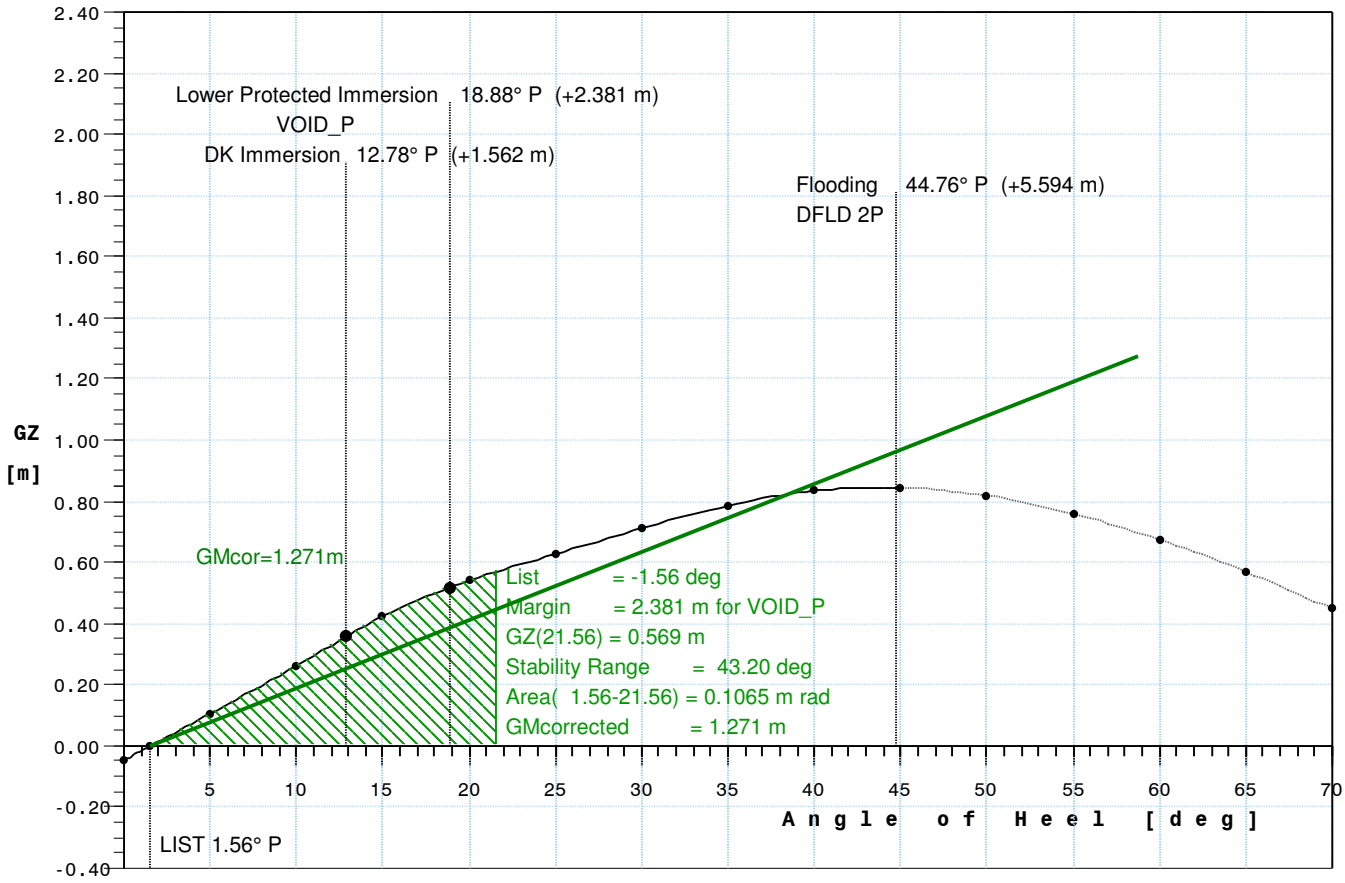
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
16	No.2 B.W.T.(P)	76.5	Flooded (0.95 perm)	165.50	161.46	33.485	-5.240	2.023
1	No.1 C.O.T.(P)	63.4	Flooded (0.95 perm)	363.38	354.52	33.075	-3.185	3.539
	Damage Inflow			528.88	515.98	33.203	-3.828	3.065

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.075	-3.185	3.539	281.89	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.097	3.162	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.828	-3.474	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.828	3.447	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.488	-3.476	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.488	3.449	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.862	-3.476	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.862	3.449	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.212	-3.476	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.212	3.449	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.457	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.430	4.535	61.34	15.0	1.0000
	Cargo Total			4902.59	4.395	0.307	4.537	3103.44		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)	FLOODED						
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.25 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



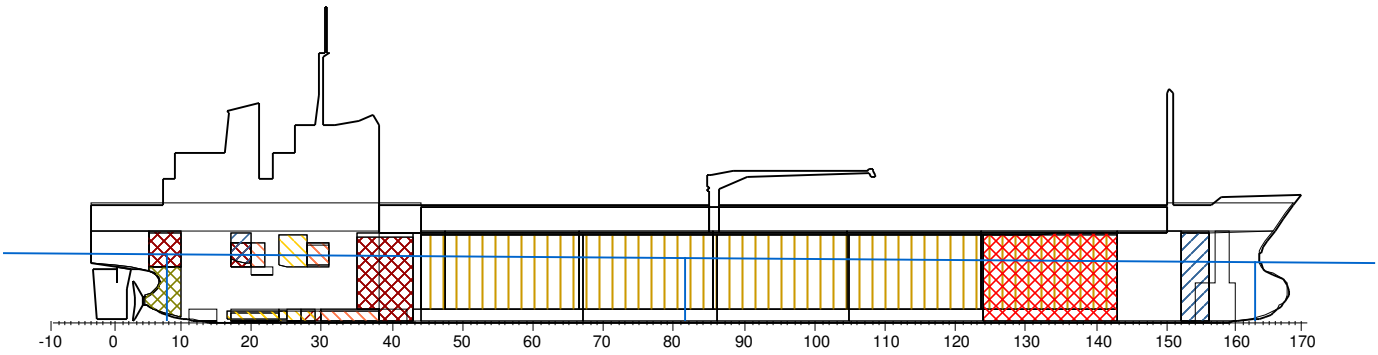
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.760A	6.014	-0.449	0.194	4.936	-0.244	-0.047	0.000	2.594	5.747
1.56	0.712A	6.024	-0.449	0.194	4.936	-0.059	0.000	0.000	2.381	5.594
5.00	0.617A	6.038	-0.449	0.194	4.936	0.348	0.105	0.003	1.910	5.245
10.00	0.443A	6.053	-0.449	0.194	4.936	0.943	0.261	0.019	1.227	4.722
12.89	0.321A	6.059	-0.449	0.194	4.936	1.285	0.357	0.035	0.834	4.411
15.00	0.231A	6.063	-0.449	0.194	4.936	1.539	0.423	0.049	0.548	4.178
18.88	0.009A	6.102	-0.449	0.194	4.936	1.955	0.518	0.081	0.000	3.721
20.00	0.057F	6.113	-0.449	0.194	4.936	2.079	0.540	0.091	-0.158	3.585
25.00	0.441F	6.207	-0.449	0.194	4.936	2.576	0.627	0.142	-0.885	2.949
30.00	0.900F	6.336	-0.449	0.194	4.936	3.055	0.712	0.201	-1.617	2.281
35.00	1.421F	6.512	-0.449	0.194	4.936	3.508	0.787	0.266	-2.363	1.570
40.00	1.993F	6.755	-0.449	0.194	4.936	3.910	0.834	0.337	-3.128	0.810
45.00	2.654F	7.070	-0.449	0.194	4.936	4.249	0.845	0.411	-3.892	0.020
45.12	2.672F	7.078	-0.449	0.194	4.936	4.256	0.844	0.413	-3.911	0.000
50.00	3.429F	7.458	-0.449	0.194	4.936	4.525	0.818	0.484	-4.637	-0.782
55.00	4.380F	7.945	-0.449	0.194	4.936	4.737	0.759	0.553	-5.352	-1.583
60.00	5.608F	8.579	-0.449	0.194	4.936	4.893	0.674	0.615	-6.030	-2.375
65.00	7.277F	9.450	-0.449	0.194	4.936	4.995	0.569	0.670	-6.666	-3.153
70.00	9.716F	10.733	-0.449	0.194	4.936	5.049	0.450	0.714	-7.254	-3.910

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.381	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.56P	deg	max 25.00	PASS	at completion of flooding
Stability Range	43.20	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.478	m	min 0.100	PASS	at 40.0 % of flooding
Area under 20 degrees range	0.0856	m rad	min 0.0175	PASS	at 20.0 % of flooding

No.26 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

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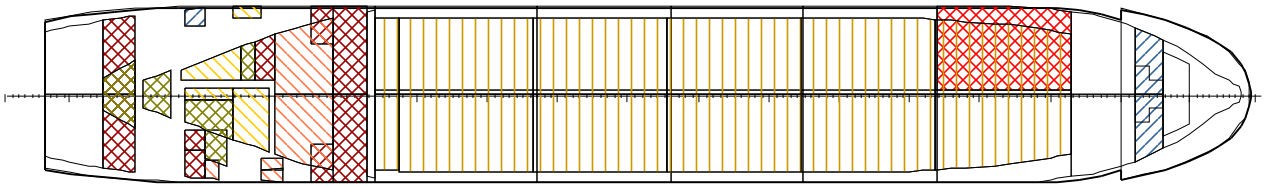


Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.031	37945.6	-0.027	-145.8	4.541	24506.1	3370.25
Fuel	376.57	-33.492	-12611.9	0.126	47.4	4.645	1749.1	390.72
Diesel	62.55	-31.781	-1988.0	1.030	64.5	1.473	92.2	200.57
Lub. Oil	31.74	-37.310	-1184.3	-0.849	-26.9	1.340	42.5	49.30
Fr. Water	139.50	43.115	6014.6	0.265	36.9	4.089	570.5	38.67
Miscel	21.71	-46.844	-1017.1	0.099	2.1	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8597.65	1.481	12734.6	0.000	0.8	4.915	42254.8	4083.00
Inflow	172.97	33.508	5795.9	-5.321	-920.5	2.203	381.1	349.98

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8597.65	MT	TRANSVERSE METACENTRE	KM	6.739	m
DRAFT CORRESPONDING	Tcf	6.121	m	VERT. CENTER OF GRAVITY	KG	4.915	m
DRAFT F.P.	Tfp	5.957	m	METACENTRIC HEIGHT	GM	1.824	m
DRAFT A.P.	Tap	6.273	m	FREE SURFACE MOMENT	FSM	4083.00	MT m
DRAFT MEAN	Tms	6.115	m	FREE SURFACE CORRECTION	GGc	0.475	m
TRIM	trim	0.315	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.349	m
LONG. CENTER BUOYANCY	LCB	1.476	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.390	m
LONG. CENTER FLOTATION	LCF	-2.291	m +fwdMS	PROPELLER IMMERSION	P.I	112.8	%
MOMENT TO CHANGE TRIM	MCT	120.22	MT m / cm	AHEAD VISIBILITY	A.V	96.9	m
TONS PER CENTIMETRE	TPC	15.91	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.26 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	3.13	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.166	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.465	m	min	0.000	Stage 0 (DFLD 2P)	PASS
4	Angle of Protected Immersion	18.87	deg	min	3.13	Stage 5 (VOID_P)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	3.13	Stage 0 (DFLD 2P)	PASS
6	Range of Stability	41.63	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.445	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0822	m rad	min	0.0175	Stage 4	PASS

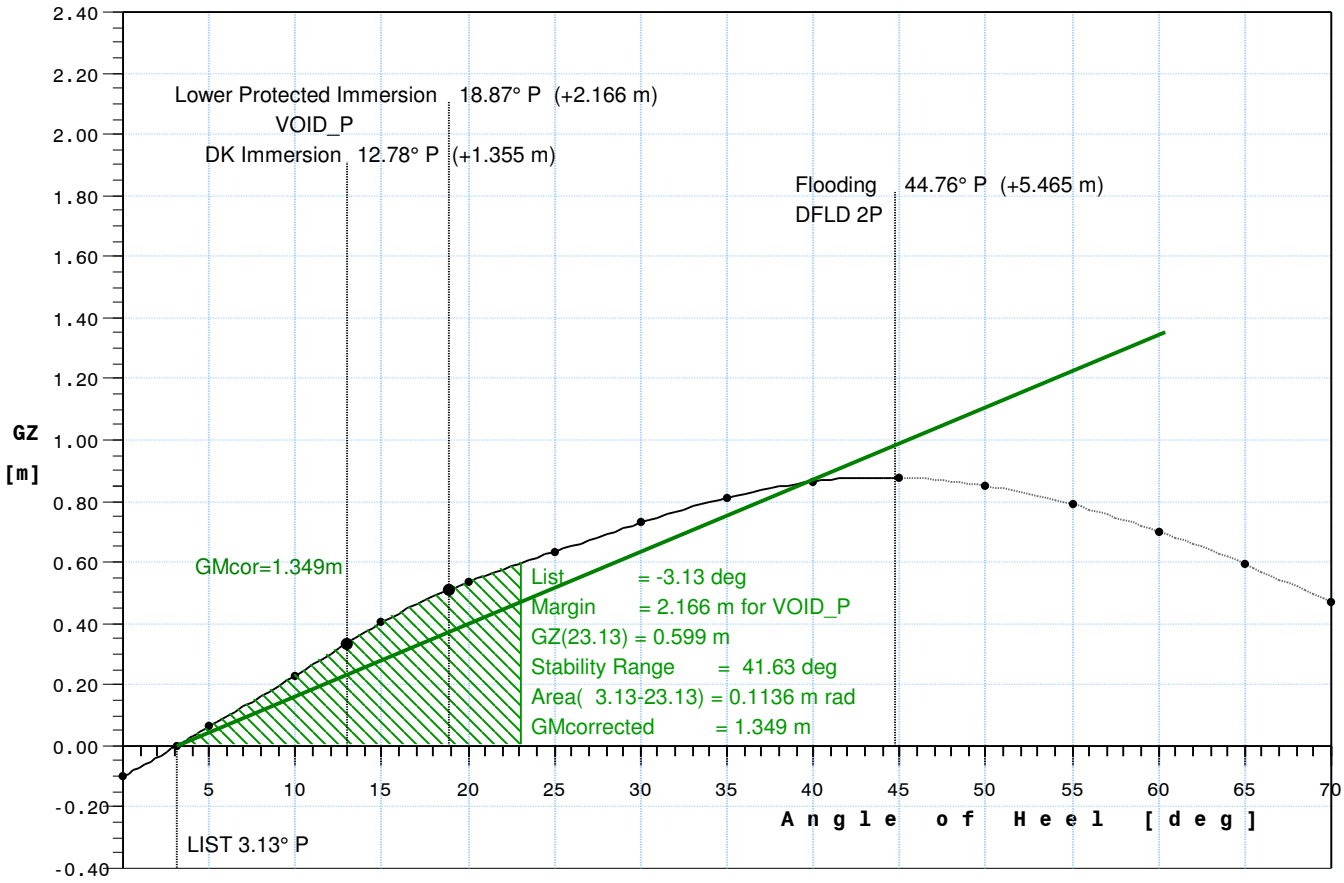
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
16	No.2 B.W.T.(P)	79.9	Flooded (0.95 perm)	172.97	168.75	33.508	-5.321	2.203
	Damage Inflow			172.97	168.75	33.508	-5.321	2.203

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.099	-3.201	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.106	3.148	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.835	-3.487	4.534	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.834	3.433	4.534	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.495	-3.490	4.535	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.495	3.436	4.535	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.855	-3.490	4.535	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.855	3.436	4.535	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.205	-3.490	4.535	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.205	3.436	4.535	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.470	4.536	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.416	4.536	61.34	15.0	1.0000
	Cargo Total			5397.08	7.031	-0.027	4.541	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)							
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)	FLOODED						
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.26 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



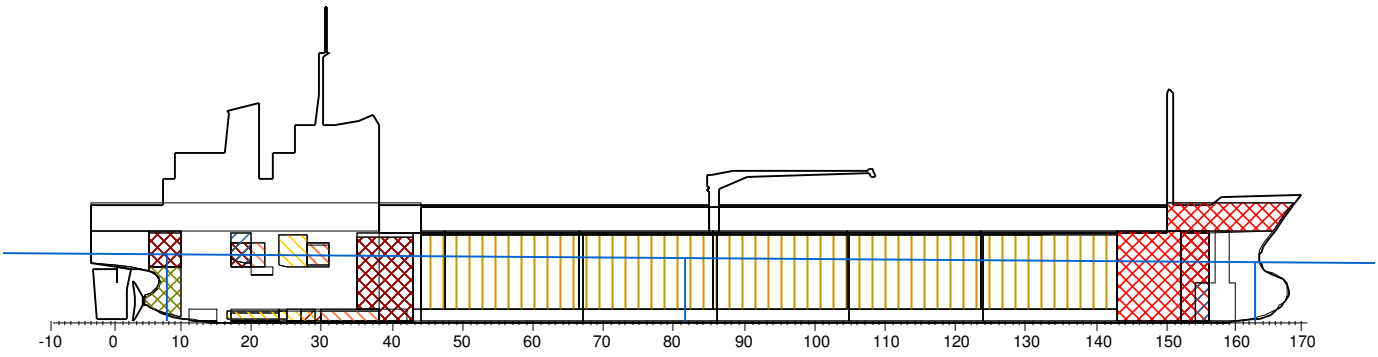
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.347A	6.111	1.481	0.000	4.915	-0.102	-0.102	0.000	2.595	5.781
3.13	0.315A	6.115	1.481	0.000	4.915	0.268	0.000	0.000	2.166	5.465
5.00	0.291A	6.115	1.481	0.000	4.915	0.490	0.061	0.001	1.910	5.272
10.00	0.198A	6.111	1.481	0.000	4.915	1.083	0.230	0.014	1.227	4.742
12.94	0.122A	6.106	1.481	0.000	4.915	1.428	0.334	0.028	0.828	4.422
15.00	0.068A	6.102	1.481	0.000	4.915	1.675	0.403	0.041	0.547	4.190
18.87	0.082F	6.124	1.481	0.000	4.915	2.091	0.509	0.072	0.000	3.727
20.00	0.127F	6.131	1.481	0.000	4.915	2.215	0.534	0.083	-0.160	3.589
25.00	0.425F	6.205	1.481	0.000	4.915	2.711	0.634	0.134	-0.885	2.948
30.00	0.817F	6.315	1.481	0.000	4.915	3.186	0.729	0.193	-1.616	2.276
35.00	1.277F	6.476	1.481	0.000	4.915	3.631	0.812	0.261	-2.362	1.562
40.00	1.791F	6.705	1.481	0.000	4.915	4.023	0.864	0.334	-3.126	0.799
45.00	2.398F	7.006	1.481	0.000	4.915	4.352	0.877	0.410	-3.890	0.007
45.04	2.404F	7.009	1.481	0.000	4.915	4.354	0.877	0.411	-3.896	0.000
50.00	3.125F	7.382	1.481	0.000	4.915	4.615	0.850	0.486	-4.634	-0.795
55.00	4.022F	7.854	1.481	0.000	4.915	4.815	0.789	0.558	-5.349	-1.596
60.00	5.178F	8.470	1.481	0.000	4.915	4.958	0.701	0.623	-6.027	-2.389
65.00	6.748F	9.315	1.481	0.000	4.915	5.048	0.594	0.679	-6.662	-3.167
70.00	9.044F	10.560	1.481	0.000	4.915	5.090	0.472	0.726	-7.249	-3.924

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

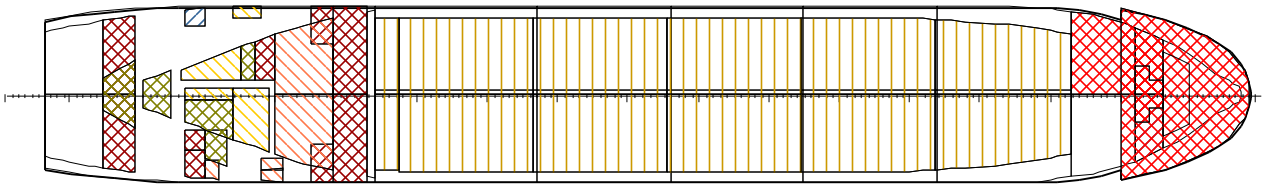
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.166	m	min 0.000	PASS	at completion of flooding
Angle of Heel	3.13P	deg	max 25.00	PASS	at completion of flooding
Stability Range	41.63	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.445	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0822	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.27 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.035	37966.7	-0.015	-82.2	4.540	24503.3	3370.25
Fuel	376.57	-33.491	-12611.6	0.135	50.8	4.645	1749.0	390.72
Diesel	62.55	-31.777	-1987.7	1.043	65.2	1.473	92.1	200.57
Lub. Oil	31.74	-37.305	-1184.2	-0.838	-26.6	1.340	42.5	49.30
Fr. Water	71.18	39.698	2825.7	3.059	217.7	4.248	302.4	18.89
Miscel	21.71	-46.840	-1017.0	0.106	2.3	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8529.33	1.119	9545.8	0.021	181.5	4.923	41986.8	4063.22
Outflow	68.32	46.675	3188.8	-2.646	-180.8	3.924	268.1	19.78
Inflow	273.07	43.580	11900.6	-2.533	-691.7	3.343	912.8	203.62

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8529.33	MT	TRANSVERSE METACENTRE	KM	6.771	m
DRAFT CORRESPONDING	Tcf	6.141	m	VERT. CENTER OF GRAVITY	KG	4.923	m
DRAFT F.P.	Tfp	6.104	m	METACENTRIC HEIGHT	GM	1.834	m
DRAFT A.P.	Tap	6.177	m	FREE SURFACE MOMENT	FSM	4063.22	MT m
DRAFT MEAN	Tms	6.140	m	FREE SURFACE CORRECTION	GGc	0.476	m
TRIM	trim	0.073	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.361	m
LONG. CENTER BUOYANCY	LCB	1.118	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.399	m
LONG. CENTER FLOTATION	LCF	-3.208	m +fwdMS	PROPELLER IMMERSION	P.I	110.4	%
MOMENT TO CHANGE TRIM	MCT	110.85	MT m / cm	AHEAD VISIBILITY	A.V	91.0	m
TONS PER CENTIMETRE	TPC	15.52	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.27 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.76	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.388	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.660	m	min	0.000	Stage 0 (DFLD 2P)	PASS
4	Angle of Protected Immersion	18.00	deg	min	1.76	Stage 5 (BWT2_P-A)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	1.76	Stage 0 (DFLD 2P)	PASS
6	Range of Stability	43.00	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.451	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0839	m rad	min	0.0175	Stage 4	PASS

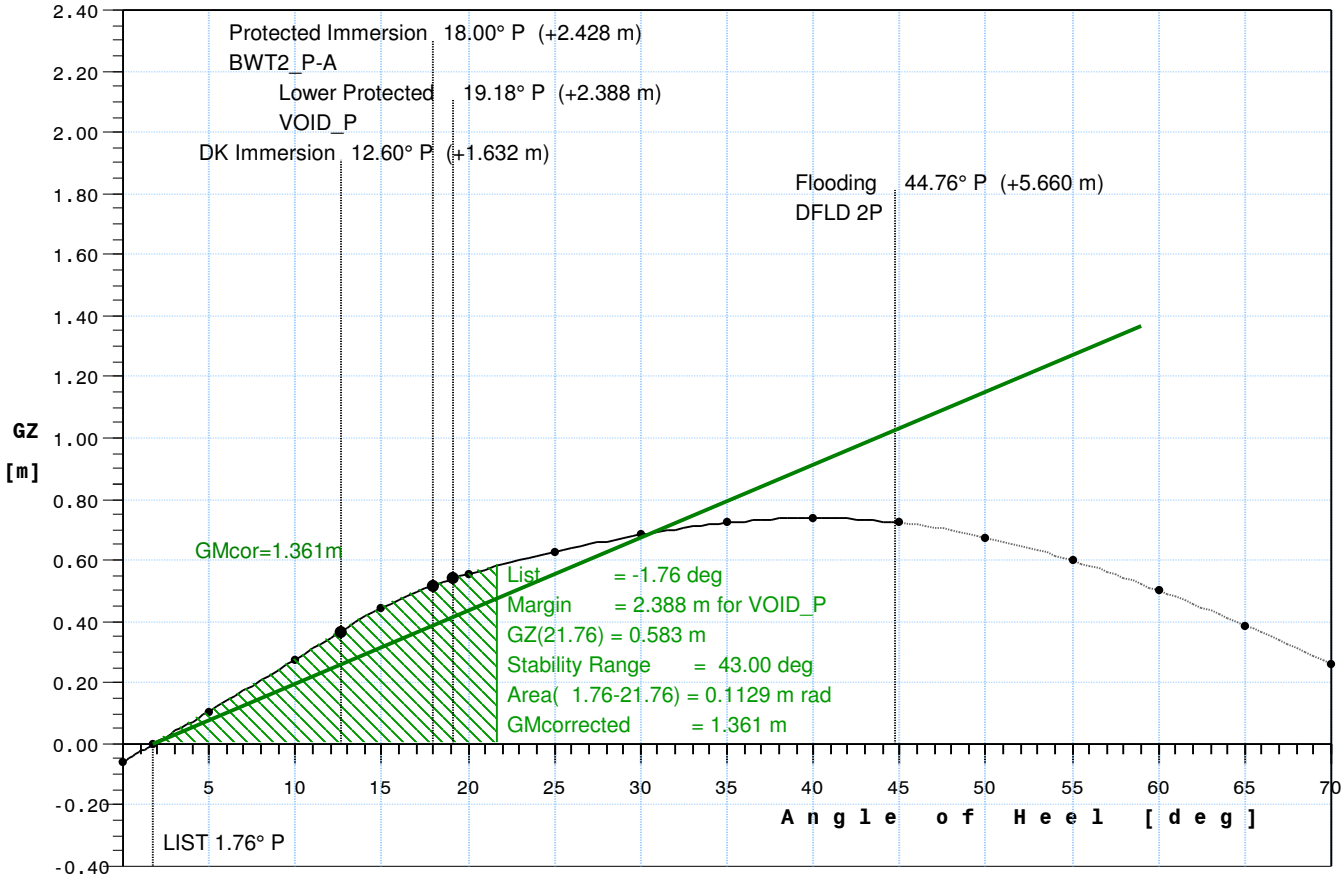
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
14	No.1 B.W.T.(P)	68.7	Flooded (0.95 perm)	195.05	190.29	42.349	-2.934	3.297
54	E.F.P.R.	53.4	Flooded (0.95 perm)	27.17	26.50	46.587	0.086	4.528
52	F'CLE							
45	F.W.T.(P)	72.6	Flooded (0.95 perm)	50.86	49.62	46.699	-2.392	2.885
	Damage Inflow			273.07	266.41	43.580	-2.533	3.343

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.105	-3.190	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.109	3.160	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.839	-3.476	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.839	3.445	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.499	-3.478	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.499	3.448	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.851	-3.478	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.851	3.448	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.201	-3.478	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.201	3.448	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.459	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.428	4.535	61.34	15.0	1.0000
	Cargo Total			5397.08	7.035	-0.015	4.540	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)	FLOODED						
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.27 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



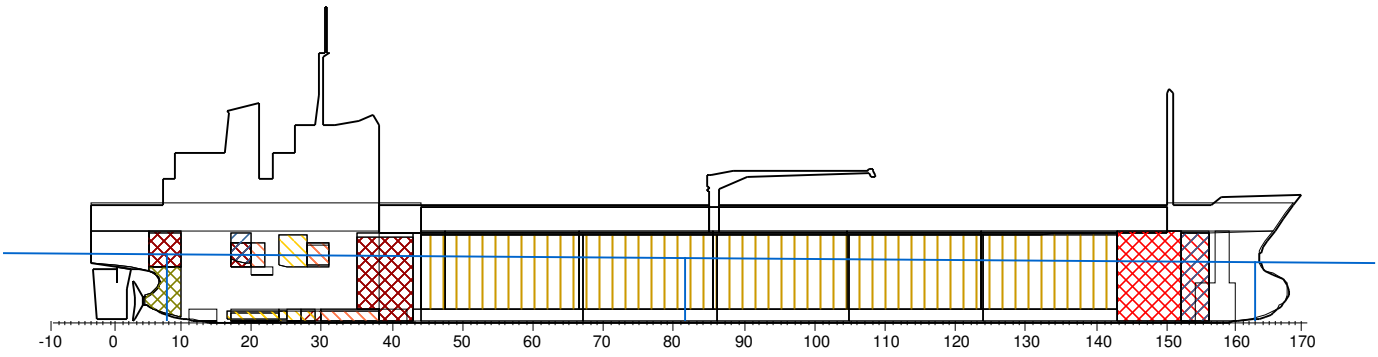
RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.100A	6.137	1.119	0.021	4.923	-0.079	-0.058	0.000	2.628	5.835
1.76	0.073A	6.140	1.119	0.021	4.923	0.130	0.000	0.000	2.388	5.660
5.00	0.024A	6.142	1.119	0.021	4.923	0.515	0.107	0.003	1.946	5.330
10.00	0.088F	6.140	1.119	0.021	4.923	1.112	0.276	0.020	1.265	4.803
12.60	0.174F	6.138	1.119	0.021	4.923	1.416	0.368	0.034	0.914	4.524
15.00	0.255F	6.136	1.119	0.021	4.923	1.702	0.445	0.051	0.588	4.257
19.18	0.504F	6.177	1.119	0.021	4.923	2.135	0.541	0.087	0.000	3.765
20.00	0.555F	6.186	1.119	0.021	4.923	2.223	0.555	0.095	-0.116	3.666
25.00	0.992F	6.289	1.119	0.021	4.923	2.693	0.627	0.147	-0.840	3.035
30.00	1.581F	6.441	1.119	0.021	4.923	3.131	0.683	0.204	-1.569	2.377
35.00	2.319F	6.654	1.119	0.021	4.923	3.535	0.723	0.266	-2.306	1.687
40.00	3.180F	6.942	1.119	0.021	4.923	3.891	0.738	0.330	-3.056	0.955
45.00	4.179F	7.312	1.119	0.021	4.923	4.194	0.722	0.394	-3.808	0.191
46.23	4.455F	7.418	1.119	0.021	4.923	4.250	0.714	0.409	-3.991	0.000
50.00	5.388F	7.775	1.119	0.021	4.923	4.438	0.675	0.455	-4.543	-0.586
55.00	6.892F	8.361	1.119	0.021	4.923	4.624	0.599	0.511	-5.249	-1.363
60.00	8.829F	9.124	1.119	0.021	4.923	4.758	0.502	0.559	-5.919	-2.135
65.00	11.459F	10.172	1.119	0.021	4.923	4.843	0.388	0.598	-6.549	-2.894
70.00	15.303F	11.715	1.119	0.021	4.923	4.883	0.262	0.626	-7.134	-3.636

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

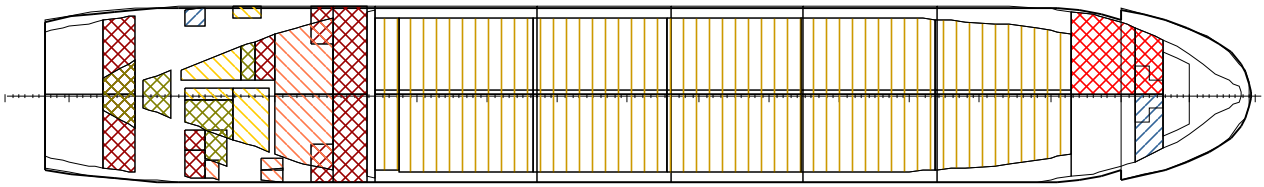
CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.388	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.76P	deg	max 25.00	PASS	at completion of flooding
Stability Range	43.00	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.451	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0839	m rad	min 0.0175	PASS	at 80.0 % of flooding

No.28 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



Ta=6.389m Drafts at marks Tm=6.016m Tf=5.603m

list=0.00°S



Cargo	Fuel Oil	Diesel Oil	Lub Oil	Fresh Water	Misc.
5397.1 MT	376.6 MT	62.6 MT	31.7 MT	139.5 MT	21.7 MT

S U M M A R Y T A B L E

DESCRIPTION	WEIGHT MT	LCG m+fwdMS	L.MOMENT MT m	TCG m+stbCL	T.MOMENT MT m	VCG m abvBL	V.MOMENT MT m	F.SURFACE MT m
Cargo	5397.08	7.033	37956.1	-0.015	-81.1	4.540	24503.3	3370.25
Fuel	376.57	-33.491	-12611.7	0.135	50.9	4.645	1749.0	390.72
Diesel	62.55	-31.779	-1987.8	1.043	65.2	1.473	92.1	200.57
Lub. Oil	31.74	-37.306	-1184.2	-0.837	-26.6	1.340	42.5	49.30
Fr. Water	71.18	39.698	2825.7	3.059	217.7	4.248	302.4	18.89
Miscel	21.71	-46.841	-1017.1	0.106	2.3	2.957	64.2	33.49
Constants	17.50	-43.476	-760.8	-7.900	-138.2	10.013	175.2	0.00
Light Ship	2551.00	-5.369	-13696.3	0.000	0.0	5.903	15058.6	0.00
Displacement	8529.33	1.119	9545.8	0.021	181.5	4.923	41986.8	4063.22
Outflow	68.32	46.675	3188.8	-2.646	-180.8	3.924	268.1	19.78
Inflow	242.95	43.250	10507.6	-2.817	-684.4	3.176	771.5	186.91

HYDROSTATICS - BASED ON DIRECT HULL CALCULATIONS

DISPLACEMENT	Displ	8529.33	MT	TRANSVERSE METACENTRE	KM	6.773	m
DRAFT CORRESPONDING	Tcf	6.123	m	VERT. CENTER OF GRAVITY	KG	4.923	m
DRAFT F.P.	Tfp	6.023	m	METACENTRIC HEIGHT	GM	1.835	m
DRAFT A.P.	Tap	6.216	m	FREE SURFACE MOMENT	FSM	4063.22	MT m
DRAFT MEAN	Tms	6.119	m	FREE SURFACE CORRECTION	GGc	0.476	m
TRIM	trim	0.193	m by STERN	METACENTRIC HEIGHT CORR.	GMc	1.363	m
LONG. CENTER BUOYANCY	LCB	1.116	m +fwdMS	VERT. CEN. GRAVITY CORR.	KGc	5.399	m
LONG. CENTER FLOTATION	LCF	-2.981	m +fwdMS	PROPELLER IMMERSION	P.I	111.4	%
MOMENT TO CHANGE TRIM	MCT	113.46	MT m / cm	AHEAD VISIBILITY	A.V	94.0	m
TONS PER CENTIMETRE	TPC	15.63	MT/cm	SEA WATER DENSITY	den	1.025	MT/m3

Note 1: Drafts at perpendiculars are moulded measured from Base Line. Keel thickness is excluded.

Note 2: Drafts at marks are measured from the bottom of hull. Keel thickness of 0.014 m is included.

No.28 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)

C O N D I T I O N A S S E S S M E N T S U M M A R Y

No.	Description	Actual	Value	Reg.	Limit	Comment	Judge
	Damage Stability Criteria						
1	Angle of List (damaged)	1.74	deg	max	25.00	Stage 5 (Equilibrium)	PASS
2	Margin of Protected Opening	2.383	m	min	0.000	Stage 5 (VOID_P)	PASS
3	Margin of Unprotected Opening	5.645	m	min	0.000	Stage 0 (DFLD 2P)	PASS
4	Angle of Protected Immersion	18.37	deg	min	1.74	Stage 5 (BWT2_P-A)	PASS
5	Angle of Unprotected Immersion	44.76	deg	min	1.74	Stage 0 (DFLD 2P)	PASS
6	Range of Stability	43.02	deg	min	20.00	Stage 5 (Equilibrium)	PASS
7	GZmax (20 deg range)	0.458	m	min	0.100	Stage 4	PASS
8	GZ Area (20 deg range)	0.0846	m rad	min	0.0175	Stage 4	PASS

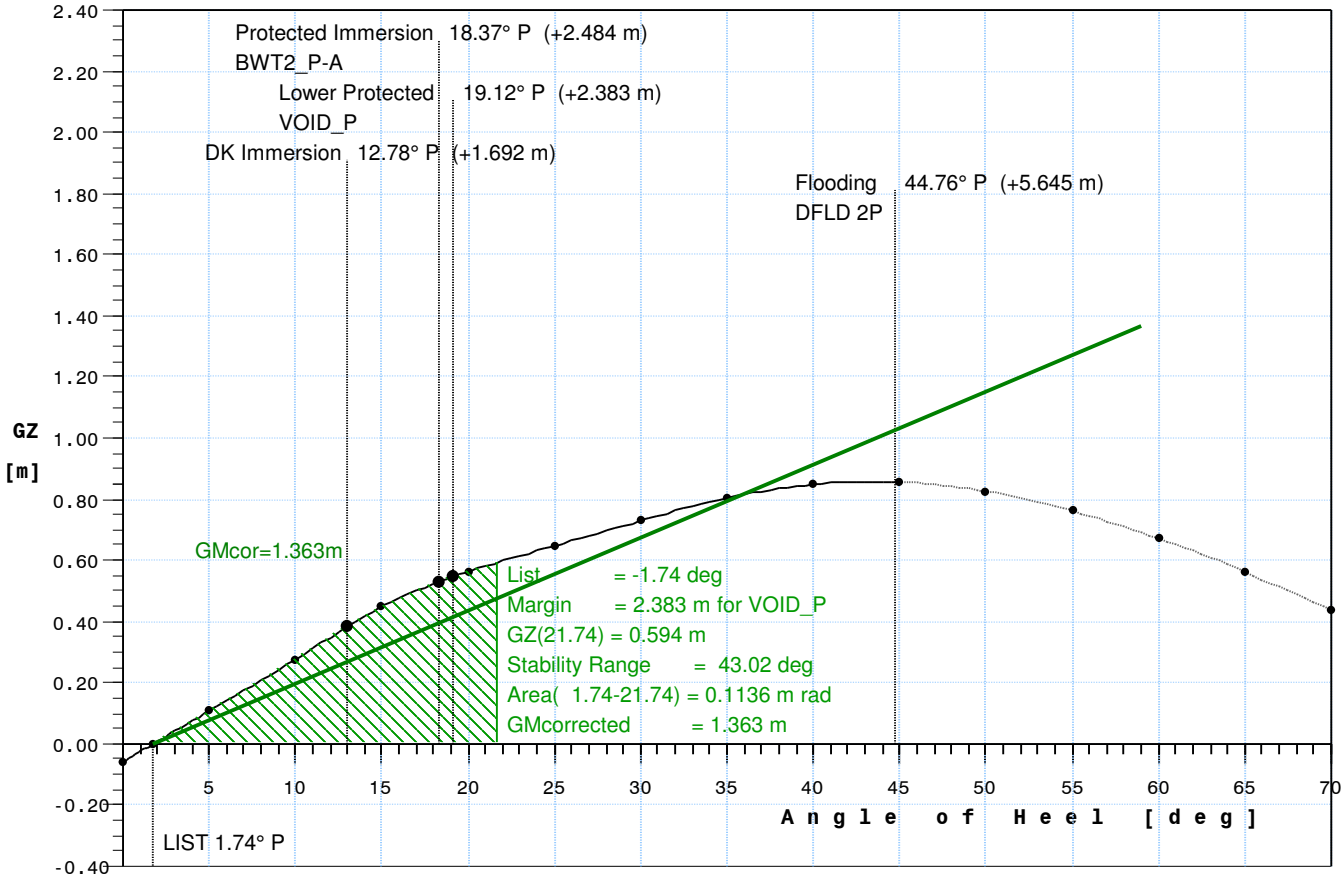
GENERAL STATEMENT: Damaged Condition FULFILLS all the above assessed criteria

No	Inflow	FILL %	DESCRIPTION	WEIGHT MT	VOLUME m3	LCG m+fwdMS	TCG m+stbCL	VCG m abvBL
14	No.1 B.W.T.(P)	67.8	Flooded (0.95 perm)	192.57	187.88	42.348	-2.930	3.260
45	F.W.T.(P)	71.9	Flooded (0.95 perm)	50.38	49.15	46.700	-2.384	2.854
	Damage Inflow			242.95	237.02	43.250	-2.817	3.176

No	Cargo	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stb CL	VCG m abv BL	F.SURF MT m	TEMP. °C	VCF
1	No.1 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	494.49	33.103	-3.190	4.568	266.81	15.0	1.0000
2	No.1 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	494.49	33.107	3.160	4.568	266.81	15.0	1.0000
3	No.2 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	526.46	20.837	-3.476	4.533	338.24	15.0	1.0000
4	No.2 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	526.46	20.837	3.445	4.533	338.24	15.0	1.0000
5	No.3 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	8.497	-3.478	4.534	339.58	15.0	1.0000
6	No.3 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	8.497	3.448	4.534	339.58	15.0	1.0000
7	No.4 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-3.853	-3.478	4.534	339.58	15.0	1.0000
8	No.4 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-3.853	3.448	4.534	339.58	15.0	1.0000
9	No.5 C.O.T.(P)	96.0	0.92165 MT/m3 Cargo	527.01	-16.203	-3.478	4.534	339.58	15.0	1.0000
10	No.5 C.O.T.(S)	96.0	0.92165 MT/m3 Cargo	527.01	-16.203	3.448	4.534	339.58	15.0	1.0000
11	SLOP TANK (P)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	-3.458	4.535	61.34	15.0	1.0000
12	SLOP TANK (S)	96.0	0.92165 MT/m3 Cargo	96.55	-23.506	3.428	4.535	61.34	15.0	1.0000
	Cargo Total			5397.08	7.033	-0.015	4.540	3370.25		

No	Ballast	FILL %	DESCRIPTION	WEIGHT MT	LCG m +fwdMS	TCG m +stbCL	VCG m abvBL	F.SURF. MT m
13	F.P.T&B.W.T							
14	No.1 B.W.T.(P)	FLOODED						
15	No.1 B.W.T.(S)							
16	No.2 B.W.T.(P)							
17	No.2 B.W.T.(S)							
18	No.3 B.W.T.(P)							
19	No.3 B.W.T.(S)							
20	No.4 B.W.T.(P)							
21	No.4 B.W.T.(S)							
22	No.5 B.W.T.(P)							
23	No.5 B.W.T.(S)							
24	No.6 B.W.T.(P)							
25	No.6 B.W.T.(S)							
26	A.B.W.T.(P)							
27	A.B.W.T.(S)							
	Ballast Total			0.00				

No.28 Damage Case for 03 - Cargo Oil Full Loading Departure p=0.922(Homo)



RIGHTING ARM vs HEEL ANGLE and OPENINGS

Heel deg	Trim [m]	Draft m abvBL	LCG [m] +fwdMS	TCG [m] +stbd	VCG [m] +abvBL	Cross KN [m]	Right. Arm m	area m rad	Protec. margin m	Flood. margin m
0.00	0.218A	6.116	1.119	0.021	4.923	-0.079	-0.057	0.000	2.620	5.818
1.74	0.193A	6.119	1.119	0.021	4.923	0.128	0.000	0.000	2.383	5.645
5.00	0.144A	6.122	1.119	0.021	4.923	0.516	0.107	0.003	1.938	5.312
10.00	0.035A	6.118	1.119	0.021	4.923	1.113	0.277	0.020	1.258	4.786
12.98	0.059F	6.115	1.119	0.021	4.923	1.463	0.383	0.037	0.855	4.464
15.00	0.124F	6.113	1.119	0.021	4.923	1.705	0.448	0.052	0.580	4.239
19.12	0.353F	6.150	1.119	0.021	4.923	2.137	0.546	0.088	0.000	3.753
20.00	0.402F	6.158	1.119	0.021	4.923	2.231	0.563	0.096	-0.124	3.647
25.00	0.776F	6.247	1.119	0.021	4.923	2.713	0.647	0.149	-0.849	3.010
30.00	1.223F	6.370	1.119	0.021	4.923	3.179	0.730	0.209	-1.581	2.340
35.00	1.749F	6.541	1.119	0.021	4.923	3.616	0.803	0.276	-2.324	1.631
40.00	2.343F	6.780	1.119	0.021	4.923	4.003	0.848	0.348	-3.084	0.875
45.00	3.039F	7.093	1.119	0.021	4.923	4.329	0.856	0.423	-3.845	0.089
45.56	3.124F	7.133	1.119	0.021	4.923	4.355	0.855	0.431	-3.929	0.000
50.00	3.869F	7.484	1.119	0.021	4.923	4.590	0.826	0.497	-4.587	-0.709
55.00	4.900F	7.976	1.119	0.021	4.923	4.788	0.762	0.566	-5.299	-1.506
60.00	6.231F	8.618	1.119	0.021	4.923	4.930	0.672	0.629	-5.976	-2.296
65.00	8.041F	9.499	1.119	0.021	4.923	5.020	0.563	0.683	-6.610	-3.071
70.00	10.687F	10.798	1.119	0.021	4.923	5.061	0.439	0.727	-7.197	-3.826

D A M A G E S T A B I L I T Y S U R V I V A L C R I T E R I A

CRITERION	ACTUAL	UNIT	REGULATION	STATUS	CRITICAL STAGE
Critical Opening Height	2.383	m	min 0.000	PASS	at completion of flooding
Angle of Heel	1.74P	deg	max 25.00	PASS	at completion of flooding
Stability Range	43.02	deg	min 20.00	PASS	at completion of flooding
Max GZ for 20 degrees range	0.458	m	min 0.100	PASS	at 80.0 % of flooding
Area under 20 degrees range	0.0846	m rad	min 0.0175	PASS	at 80.0 % of flooding