

LC0: TIME OF INCIDENT WITH LAZ AND FISH HOLD FLOOD POINTS

HYDROSTATIC PROPERTIES								
Trim: Aft 0.20 deg.,			Heel: Stbd 0.17 deg.,			VCG = 9.42		
LCF Draft	Displacement Weight(LT)	Buoyancy-Ctr. LCB	VCB	Weight/Inch	LCF	Moment/Deg trim	GML	GMT
9.269	246.27	36.30a	5.80	3.43	39.42a	276.53	64.3	1.76
Distances in FEET. Draft is from Baseline.				Specific Gravity = 1.025.			Moment in Ft-LT. True Free Surface included.	

WEIGHT and DISPLACEMENT STATUS							
Baseline draft: 9.131 @ Origin							
Trim: Aft 0.20 deg.,				Heel: Stbd 0.17 deg.			
Part	Weight(LT)	LCG	TCG	VCG			
LIGHT SHIP	181.77	38.69a	0.00	10.55			
4 CREW	0.33	36.50a	0.00	14.50			
CONSUMABLES	0.20	19.25a	0.00	14.93			
SPARE PARTS	1.25	14.00a	0.00	8.50			
ICE IN HOLD	10.63	47.75a	0.00	6.99			
CATCH IN HOLD	24.55	23.58a	0.00	7.37			
PARAVANES UP	-1.99	34.50a	0.00	37.50			
PARAVANES DOWN	1.99	34.50a	0.00	23.50			
LARGER TRAWLER DOORS	0.98	67.03a	0.00	15.70			
<b>Total Fixed</b>	<b>219.71</b>	<b>37.40a</b>	<b>0.00</b>	<b>9.92</b>			
	Load	SpGr	Weight(LT)	LCG	TCG	VCG	FSM
FW	0.500	1.000	3.03	0.33a	0.01s	9.01	5.2
FOS	0.500	0.870	11.63	30.36a	7.70s	4.85	4.2
FOP	0.500	0.870	11.63	30.36a	7.70p	4.85	4.2
HOT	0.500	0.947	0.27	40.59a	4.90s	6.43	0.0
<b>Total Tanks</b>			<b>26.56</b>	<b>27.04a</b>	<b>0.05s</b>	<b>5.34</b>	<b>13.7</b>
<b>Total Weight</b>			<b>246.27</b>	<b>36.29a</b>	<b>0.01s</b>	<b>9.42</b>	
HULL		1.025	Displ(LT)	LCB	TCB	VCB	RefHt
			246.27	36.30a	0.02s	5.80	-9.13
<b>Righting Arms:</b>				0.00	0.00		
Distances in FEET.				Moments in Ft-LT.			

FREEBOARD STATUS		
Baseline draft: 9.131 @ Origin		
Trim: Aft 0.20 deg.,		Heel: Stbd 0.17 deg.
Least freeboard is 2.22 Ft located at 36.38a		

RIGHTING ARMS vs HEEL ANGLE							
Total CG: LCG = 36.29a		TCG = 0.01s		VCG = 9.42			
Free Surface Adjustment: 0.06							
Adjusted CG: LCG = 36.29a		TCG = 0.01s		VCG = 9.48			
Origin Depth	Degrees of Trim	Heel	Displacement Weight(LT)	Righting Arms in Trim	in Heel	Area	Flood Pt Height
9.131	0.20a	0.00	246.27	0.00	-0.005	0.00	4.44 (5)
9.131	0.20a	0.17s	246.27	0.00	0.000	-0.00	4.43 (5)
9.082	0.21a	5.17s	246.27	0.00	0.155	0.39	4.33 (5)
8.939	0.23a	10.17s	246.27	0.00	0.320	1.57	4.20 (5)
8.727	0.25a	15.17s	246.27	0.00	0.472	3.56	4.04 (5)
8.518	0.26a	20.17s	246.27	0.00	0.525	6.09	3.79 (5)

Max RA

8.299	0.28a	25.17s	246.27	0.00	0.493	8.67	3.43 (5)
8.058	0.34a	30.00s	246.27	0.00	0.397	10.84	2.99 (5)
8.049	0.34a	30.17s	246.27	0.00	0.393	10.91	2.97 (5)
7.776	0.41a	35.17s	246.27	0.00	0.249	12.53	2.42 (5)
7.494	0.47a	40.00s	246.27	0.00	0.083	13.34	1.86 (5)
7.484	0.47a	40.17s	246.27	0.00	0.077	13.36	1.83 (5)
7.360	0.49a	42.16s	246.27	0.00	0.000	13.43	1.59 (5)
7.161	0.51a	45.17s	246.27	0.00	-0.124	13.25	1.23 (5)
6.802	0.53a	50.17s	246.27	0.00	-0.346	12.08	0.61 (5)
6.410	0.52a	55.17s	246.27	0.00	-0.579	9.78	-0.00 (5)
5.981	0.50a	60.17s	246.27	0.00	-0.819	6.29	-0.62 (5)
5.518	0.48a	65.17s	246.27	0.00	-1.062	1.58	-1.23 (5)
5.024	0.45a	70.17s	246.27	0.00	-1.304	-4.33	-1.87 (2)
4.502	0.41a	75.17s	246.27	0.00	-1.543	-11.45	-2.57 (2)
3.963	0.36a	80.17s	246.27	0.00	-1.772	-19.74	-3.25 (2)
3.411	0.28a	85.17s	246.27	0.00	-1.989	-29.15	-3.91 (2)
2.852	0.19a	90.17s	246.27	0.00	-2.190	-39.60	-4.55 (2)

Vanishing  
Downflood

Distances in FEET. Specific Gravity = 1.025. Area in Ft-Deg.

Note: The Weight and Center of Gravity used for the righting arms above include tank loads. However, the tank load centers were NOT ALLOWED TO SHIFT with heel and trim changes. Rather, a constant Free Surface Moment of 13.7 Ft-LT was applied to artificially modify the CG.

Critical Points		LCP	TCP	VCP
(2)	HOLD AFT FLOOD	46.00a	1.50	14.50
(5)	LAZ HATCH AFT FLOOD	73.00a	1.00	13.82

LIM	46CFR28.570_INTACT_RIGHTING_ENERGY	Min/Max	Attained
(1)	GM Upright	> 1.15 Ft	1.77 P
(2)	Righting Arm at abs 30 deg	> 0.66 Ft	0.40 F
(3)	Absolute Angle at MaxRA	> 25.00 deg	20.17 F
(4)	Abs Area from abs 0 deg to abs 40 or Flood	> 16.90 Ft-deg	13.34 F
(5)	Absolute Area from abs 0 deg to abs 30	> 10.30 Ft-deg	10.84 P
(6)	Abs Area from abs 30 deg to abs 40 or Flood	> 5.60 Ft-deg	2.50 F
(7)	Angle from abs 0 deg to RAzero	> 60.00 deg	42.16 F

Failures

Critical (flood) points:  
Fish Hold 4'x3' with 36" coaming above deck  
Laz Hatch 2'x2' with 6" coaming above deck  
\*modeled fwd and aft points of each hatch

