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FEB 20 2009

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FEB 20 2009

CCGS John P. Tully

Trim and Stability Booklet

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Revision 0



Transport
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STX Canada Marine Inc.
1818 Cornwall Ave, 3rd Floor
Vancouver, BC
V6J 1C7

February 20, 2009

Attention: Mr. Dan Vyselaar

Dear Dan,

re: m.v. "John P. Tully" - Stability Approval.

We refer to your letter of submission of four (4) copies of the Trim and Stability Booklet Rev. 0, dated Feb 2009. The intact conditions and ice conditions have been examined and are approved. The damage conditions are not required by, regulation for, non-Arctic class ships and have been stamped noted.

Please find enclosed two (2) copies of the approved report, one copy is to be placed onboard the vessel for the use of the Master. Our fee will be invoice under separate cover.

Yours truly,

John Haswell

for:

Sultan Virani,
Manager, Marine, Transport Canada,
Nanaimo District Office

cc: AMSB

Canada

Revision Table

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CCGS John P. Tully
GENERAL PARTICULARS

SHIP'S NAME	CCGS John P. Tully
OFFICIAL NUMBER	804457
PORT OF REGISTRY	Ottawa
CLASS OF VOYAGE	Foreign Going
ICE CLASS	A1 (Lloyd's)
MARPOL	0
IMO	8320420
BUILDER	Bel-Air Shipyard Ltd.
DATE BUILT	1985
MOULDED DIMENSIONS	LOA: 68.9 m Depth: 4.9 m Breadth: 14.0 m
SUMMER LOADLINE DRAFT	4.514 m
DISPLACEMENT AT LOADLINE DRAFT	2123.3 tonnes
LIGHTSHIP WEIGHT	1624.6 tonnes
DEADWEIGHT	498.7 tonnes
COMPLEMENT	Crew: 20 Science: 20
GROSS TONNAGE	2021 grt
NET TONNAGE	606 nrt

Note: Vessel was computer modeled using GHIS computer software (File Name 930.gr2). The model includes the hull, shell plating, tanks and compartments.
Drafts given in hydrostatic and stability data are referenced from the underside of keel at midships.
All other vertical positions (VCB, VCG, KM-L, KM-T) are referenced from top side of keel at midships.

General Notes Regarding Stability and Loading of the Ship

(a) Compliance with the stability criteria indicated does not ensure immunity against capsizing regardless of the circumstances, or absolve the master from his responsibilities. Masters should therefore exercise prudence and good seamanship having regard to the season of the year, weather forecasts and the navigational zone and should take the appropriate action as to speed and course warranted by the prevailing circumstances.

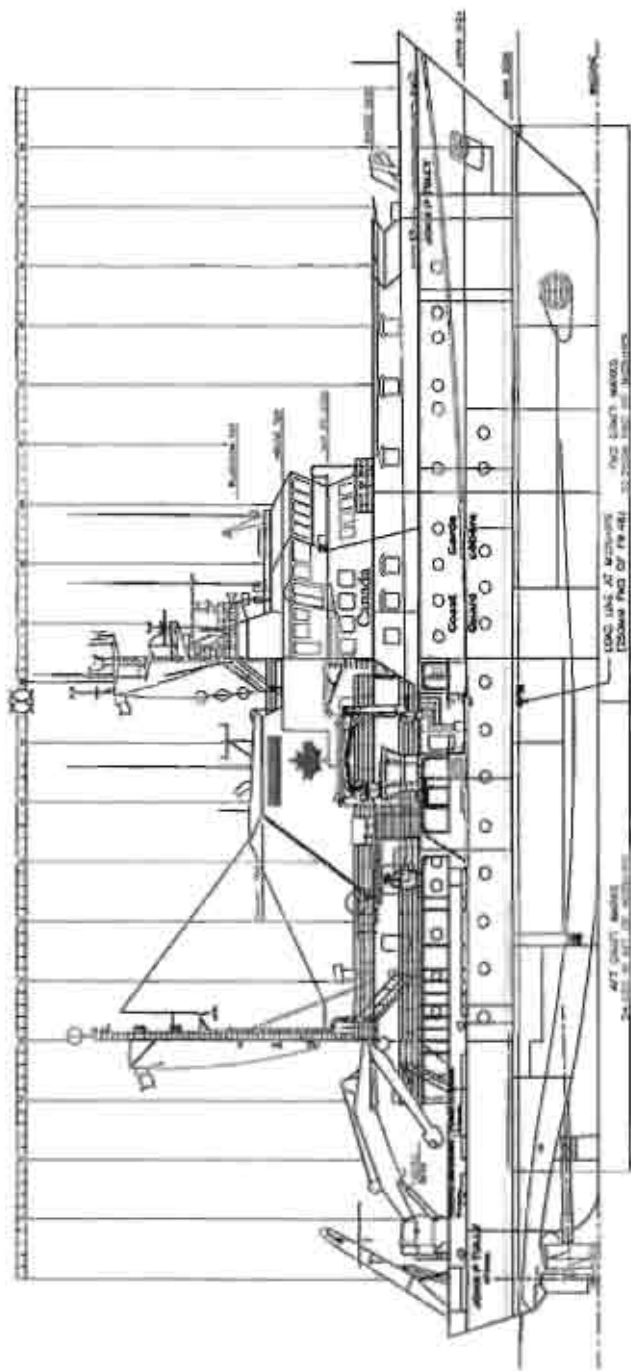
(b) Care should be taken to ensure that the cargo allocated to the ship is capable of being stowed so that compliance with the criteria can be achieved. If necessary the amount should be limited to the extent that ballast weight may be required.

(c) Before a voyage commences care should be taken to ensure that the cargo and pieces of equipment have been properly stowed or lashed so as to minimize the possibility of both longitudinal and lateral shifting while at sea under the effect of acceleration caused by rolling and pitching.

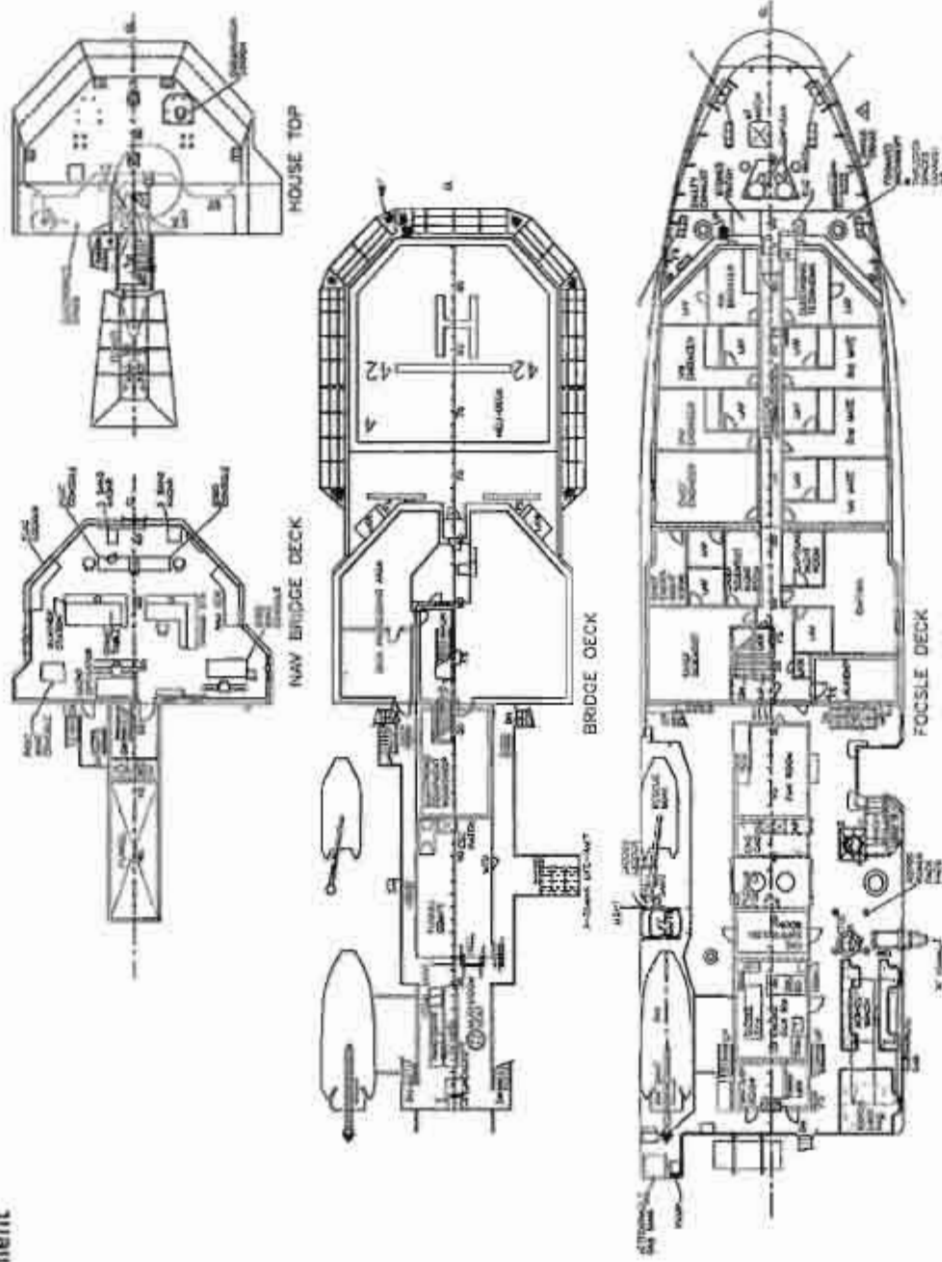
(d) Current draught markings are referenced to the underside of the keel.

(e) The flume tank is fitted on this vessel to maintain sea kindness, i.e.: lengthening the roll period and reduce its amplitude. Fuel oil is employed to fill this tank and direct dumping valves are provided from flume to No.5 fuel oil tank, port and starboard in the event of an emergency. Therefore, No.5 fuel oil tanks must be kept empty when the flume tank carries liquid. It is of the utmost importance for the master to remember: "THE FLUME TANK MUST BE EMPTIED WHEN DAMAGE OCCURS"

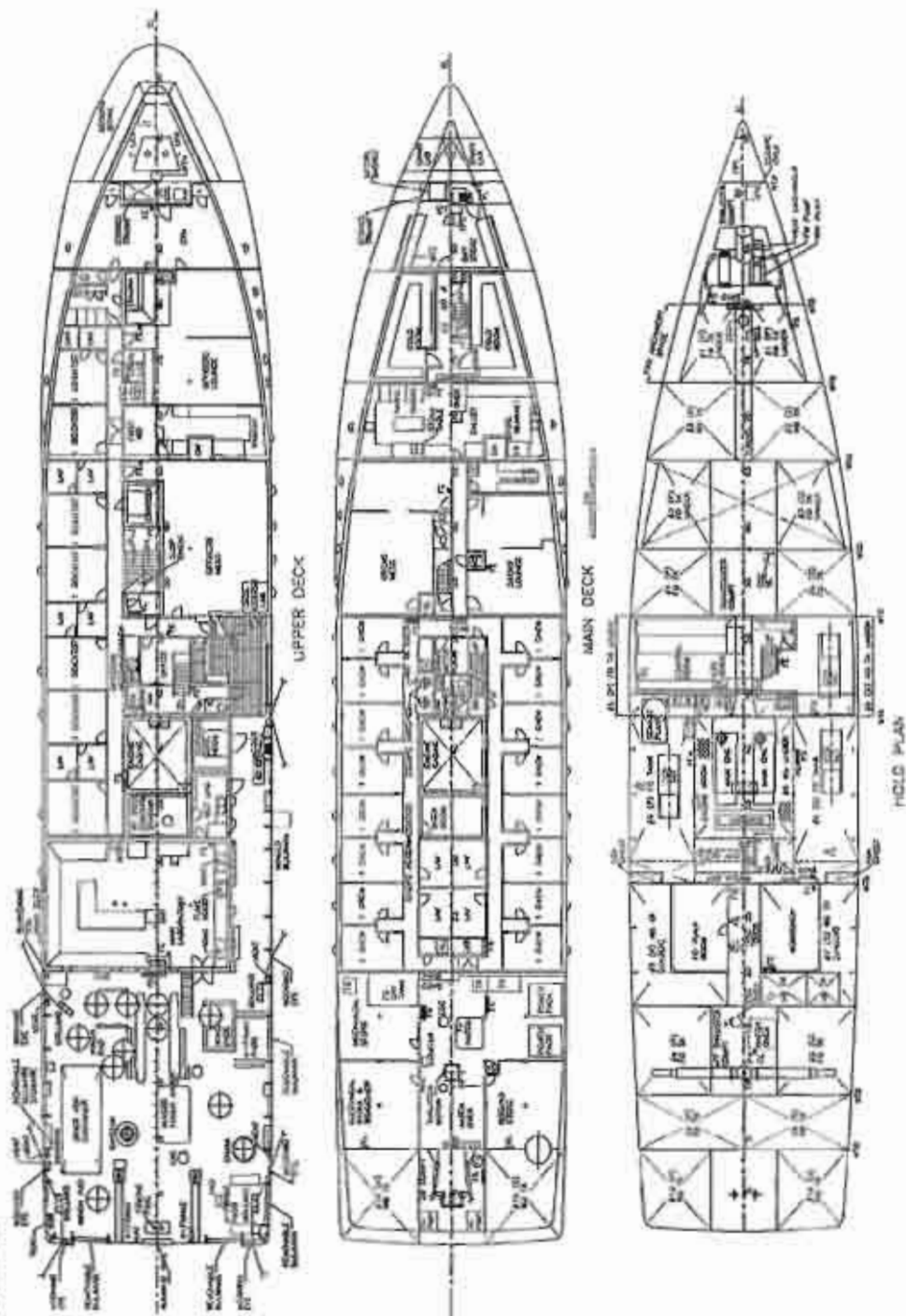
General Arrangement



General Arrangement



General Arrangement

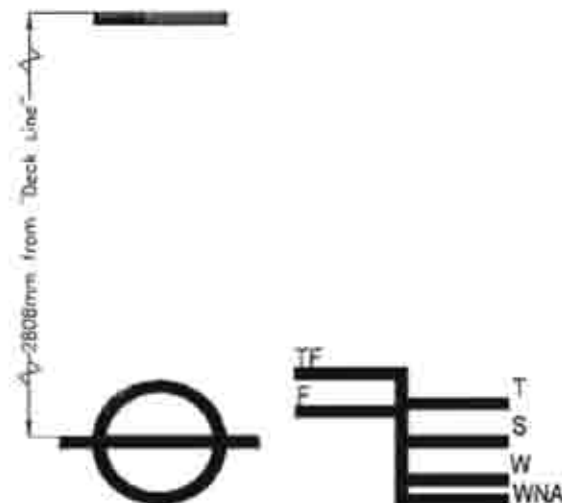


DEADWEIGHT SCALE				
MCT-1cm (MT-M/cm)	TPC (MT/cm)	MEAN DRAFT (M)	DISPL (MT-SW)	DEAD- WEIGHT (MT)
32.00	7.10	4.80	2200	
			2150	
31.00	7.00	4.50	2100	
		4.40	2050	430
30.00	6.90		2000	400
		4.30	1950	360
29.00	6.80	4.20	1900	300
		4.10	1850	260
28.00	6.70	4.00	1800	200
		3.90	1750	150
27.00	6.60	3.80	1700	100
		3.70	1650	50
26.00	6.50		1600	
		3.60	1550	
25.00	6.40	3.50	1500	
		3.40	1450	

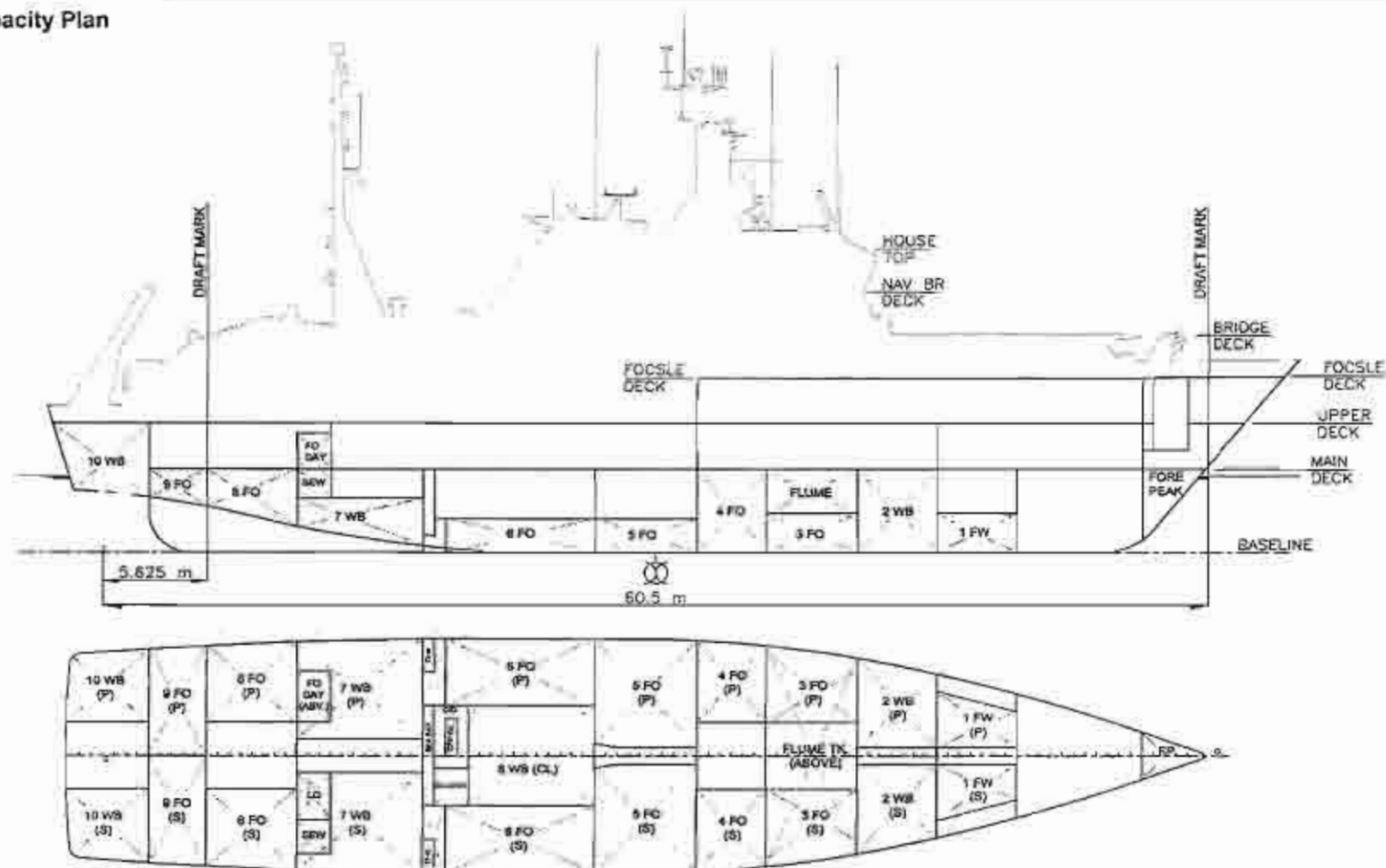
LOADLINE (2123.3 MT) - 4.514 m ABV USK
DEADWEIGHT - 458.7 MT

LIGHTSHIP (1824.5 MT) - 3.758 m ABV USK
DEADWEIGHT - 0.0 MT

NOTE: SHIP ON EVEN KEEL WITH DRAFT MARKS REFERENCED FROM UNDER SIDE OF KEEL (USK), i.e. 0.014 m (14 mm) BELOW TOP SIDE OF KEEL



Capacity Plan



Tank Capacities and Free Surface Corrections

Tank Name	% Util	Specific Gravity	Volume (m³)	Weight (tonnes)	LCG (m from aft)	TCG (m from aft)	Free Surface Correction (m)	Max FSC (m)	
Fuel Oil Tanks									
Tank 3 - Fuel Oil (P)	100	0.850	21,700	18,445	8,348f	3,466p	1,538	17,410	
Tank 3 - Fuel Oil (S)	100	0.850	21,700	18,445	8,348f	3,466a	1,538	17,410	
Tank 4 - Fuel Oil (P)	100	0.850	66,400	56,440	4,093f	4,149p	2,924	27,570	
Tank 4 - Fuel Oil (S)	100	0.850	66,400	56,440	4,093f	4,149a	2,924	27,570	
Tank 5 - Fuel Oil (P)	100	0.850	41,300	35,105	0,465a	3,066p	1,248	35,190	
Tank 5 - Fuel Oil (S)	100	0.850	41,300	35,105	0,465a	3,066a	1,248	35,190	
Tank 6 - Fuel Oil (P)	100	0.850	29,300	24,905	7,318a	4,598p	1,471	34,190	
Tank 6 - Fuel Oil (S)	100	0.850	29,300	24,905	7,318a	4,598a	1,471	34,190	
Tank 8 - Fuel Oil (P)	100	0.850	45,800	38,930	21,905a	4,117p	3,850	36,080	
Tank 8 - Fuel Oil (S)	100	0.850	45,800	38,930	21,905a	4,117a	3,850	36,080	
Tank 9 - Fuel Oil (P)	100	0.850	29,000	24,650	26,093a	2,773p	4,111	58,190	
Tank 9 - Fuel Oil (S)	100	0.850	29,000	24,650	26,093a	2,773a	4,111	58,190	
FO Day Tank (P)	100	0.850	11,900	9,860	19,667a	3,500p	5,950	3,550	
			Total:	478,900	406,810	6,831a	6,831p	2,728	520,750
Plume Tank									
Plume Tank	100	0.850	152,900	129,965	8,437f	0,000	3,597	678,980	
			Total:	152,900	129,965	8,437f	0,000	3,597	678,980
Lube Oil Tanks									
LO Storage Tk (S)	100	0.830	10,600	8,796	18,687a	2,650a	4,050	5,23	
CPP Oil (P)	100	0.830	1,400	1,162	11,188a	1,015p	0,712	0,47	
			Total:	12,000	9,958	17,816a	2,224a	3,662	5,700

GHS Tank Names

Tank 3 - Fuel Oil (P)	=	TK3_FO.P	Tank 8 - Fuel Oil (P)	=	TK8_FO.P
Tank 3 - Fuel Oil (S)	=	TK3_FO.S	Tank 8 - Fuel Oil (S)	=	TK8_FO.S
Tank 4 - Fuel Oil (P)	=	TK4_FO.P	Tank 9 - Fuel Oil (P)	=	TK9_FO.P
Tank 4 - Fuel Oil (S)	=	TK4_FO.S	Tank 9 - Fuel Oil (S)	=	TK9_FO.S
Tank 5 - Fuel Oil (P)	=	TK5_FO.P	FO Day Tank (P)	=	PODAY.P
Tank 5 - Fuel Oil (S)	=	TK5_FO.S	Plume Tank	=	FLUME.C
Tank 6 - Fuel Oil (P)	=	TK6_FO.P	Lube Oil Storage Tk (S)	=	ME_LO.S
Tank 6 - Fuel Oil (S)	=	TK6_FO.S	CPP Oil (P)	=	CPP_OIL.P

Effect of Free Surfaces on Stability

The free surface of fluid carried in partially filled tanks has the effect of reducing stability. This can be regarded as an effective rise in the position of the vertical center of gravity (KG) and as a reduction in the metacentric height (loss of GM). This effect shall be taken into account when calculating KG using the following equation:

$$\text{Free Surface Correction} = \frac{\text{Free surface moment}}{\text{Vessel Displacement}}$$

The calculated KG shall be corrected as follows: $KG(f) = KG + \text{Free Surface Correction}$, and subsequently used in the formula for the calculation of GZ.

Also, $KM - KG(f) = GM(f)$, i.e. the corrected GM.

Tank Name	% Util	Specific Gravity	Volume (m³)	Weight (tonnes)	LCG (m from aft)	TCG (m from aft)	Free Surface Correction (m)	Max FSC (m)
Fresh Water Tanks								
Tank 1 - Fresh Water (P)	100	1.000	16,900	16,900	17.374f	1.524p	1.340	6.84
Tank 1 - Fresh Water (S)	100	1.000	16,900	16,900	17.374f	1.524a	1.340	6.84
		Total:	33,800	33,800	17.374f	0.000	1.340	13.680
Sundry Tanks								
Sludge Tank (S)	100	0.900	3,400	3,060	11.158a	1.715a	0.806	1.6
Sewage Tank (S)	100	1.000	5,500	5,500	18.687a	5.300a	4.050	0.67
		Total:	8,900	8,560	15.962a	4.002a	2.875	2.470
Water Ballast Tanks								
Tank 2 - Water Ballast (P)	100	1.025	81,000	83,025	13.094f	2.351p	2.913	69.24
Tank 2 - Water Ballast (S)	100	1.025	81,000	83,025	13.094f	2.351a	2.913	69.24
Tank 6 - Water Ballast (C)	100	1.025	41,200	42,230	6.781a	0.000	0.706	119.61
Tank 7 - Water Ballast (P)	100	1.025	52,100	53,403	15.823a	3.552p	2.204	107.84
Tank 7 - Water Ballast (S)	100	1.025	52,100	53,403	15.823a	3.552a	2.204	107.84
Tank 10 - Water Ballast (P)	100	1.025	67,300	68,983	29.675a	4.147p	5.879	41.63
Tank 10 - Water Ballast (S)	100	1.025	67,300	68,983	29.675a	4.147a	5.879	41.63
		Total:	442,000	453,050	8.661a	0.000	3.444	536.830

GHS Tank Names

Tank 1 - Fresh Water (P)	=	TK1_FW.P	Tank 7 - Water Ballast (S)	=	TK7_WB.S
Tank 1 - Fresh Water (S)	=	TK1_FW.S	Tank 10 - Water Ballast (P)	=	TK10_WB.P
Sludge Tank (S)	=	SLUDGE.S	Tank 10 - Water Ballast (S)	=	TK10_WB.S
Sewage Tank (S)	=	SEWAGE.S			
Tank 2 - Water Ballast (P)	=	TK2_WB.P			
Tank 2 - Water Ballast (S)	=	TK2_WB.S			
Tank 6 - Water Ballast (C)	=	TK6_WB.C			
Tank 7 - Water Ballast (P)	=	TK7_WB.P			

TABLE OF HYDROSTATIC PROPERTIES

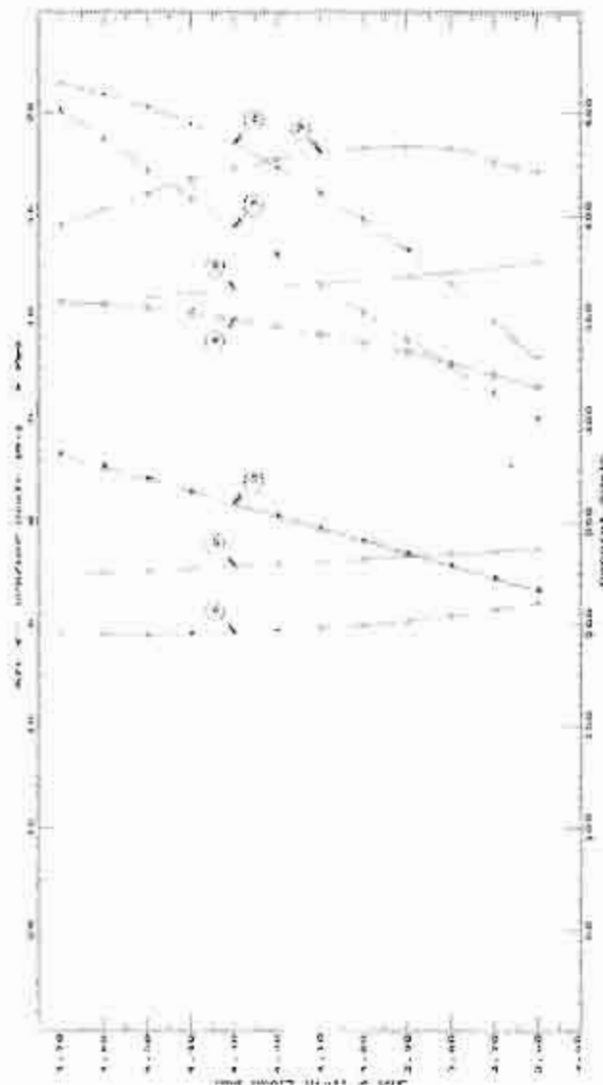
VCG = 0.00 ft Above Baseline

LCP (mm) (in USK)	Displacement (MT)	LCB (ft Fwd/Aft Mid L)	VCB (ft ABL)	TPC (MT/cm)	LCF (ft Fwd/Aft Mid L)	MCT-1cm (MT/m/cm)	KM-Long (ft ABL)	KM-Trans (ft ABL)
3.600	1903.470	1.326a	2.166	6.330	3.955a	23.120	84.390	7.563
3.700	1967.370	1.440a	2.226	6.450	4.269a	24.390	85.380	7.604
3.800	1932.470	1.560a	2.286	6.570	4.589a	25.720	86.460	7.452
3.900	1998.670	1.682a	2.346	6.670	4.830a	26.830	86.680	7.411
4.000	1765.850	1.805a	2.407	6.760	5.035a	27.860	86.670	7.374
4.100	1833.820	1.928a	2.467	6.840	5.198a	28.790	86.140	7.342
4.200	1902.770	2.049a	2.528	6.920	5.337a	29.660	85.540	7.312
4.300	1972.370	2.166a	2.588	6.990	5.447a	30.460	84.730	7.281
4.400	2042.590	2.280a	2.648	7.050	5.509a	31.120	83.620	7.245
4.500	2113.350	2.389a	2.708	7.100	5.536a	31.680	82.270	7.202
4.600	2184.510	2.491a	2.768	7.130	5.515a	32.120	80.670	7.155
4.700	2256.000	2.586a	2.827	7.160	5.480a	32.520	79.090	7.109

Note: Drafts given in hydrostatic and stability data are referenced from the underside of keel, 14 mm below topside of keel (Moulded baseline).

All other vertical positions (VCB, VCG, KM-L, KM-T) are referenced from top side of keel (Moulded baseline).

HYDRAUSTATIC PROPERTIES OF A. LUNAR-17A.1M.



1. Displacement 5.00 MT
 2. 1.2M 5.00MT 2.00M 1.00MT 1.00MT
 3. 1.2M 5.00MT 2.00M 1.00MT 1.00MT
 4. 1.2M 5.00MT 2.00M 1.00MT 1.00MT
 5. 1.2M 5.00MT 2.00M 1.00MT 1.00MT
 6. 1.2M 5.00MT 2.00M 1.00MT 1.00MT
 7. 1.2M 5.00MT 2.00M 1.00MT 1.00MT
 8. 1.2M 5.00MT 2.00M 1.00MT 1.00MT
 9. 1.2M 5.00MT 2.00M 1.00MT 1.00MT
 10. 1.2M 5.00MT 2.00M 1.00MT 1.00MT

Hydrostatic properties of A. LUNAR-17A.1M.
 Draft 5.00 MT.

CROSS CURVES OF STABILITY

Displacement (MT)	Righting Arm in Metres (GZ) (GZ = 10)							
	Heel = 5°	Heel = 10°	Heel = 15°	Heel = 20°	Heel = 25°	Heel = 30°	Heel = 35°	Heel = 40°
1512.34	0.660s	1.319s	1.968s	2.580s	3.631s	4.540s	5.308s	6.854s
1576.41	0.654s	1.308s	1.954s	2.569s	3.634s	4.545s	5.298s	6.824s
1641.68	0.650s	1.299s	1.941s	2.557s	3.637s	4.549s	5.287s	6.793s
1708.02	0.646s	1.290s	1.928s	2.546s	3.641s	4.551s	5.276s	6.760s
1775.33	0.643s	1.282s	1.917s	2.535s	3.645s	4.551s	5.261s	6.725s
1.843.51	0.640s	1.275s	1.905s	2.524s	3.648s	4.548s	5.246s	6.690s
1.912.47	0.637s	1.268s	1.895s	2.513s	3.650s	4.543s	5.229s	6.655s
1.982.17	0.633s	1.262s	1.885s	2.503s	3.649s	4.535s	5.211s	6.621s
2.052.47	0.630s	1.256s	1.876s	2.494s	3.646s	4.526s	5.192s	6.589s
2.123.29	0.627s	1.249s	1.868s	2.484s	3.640s	4.514s	5.171s	6.558s
2.194.50	0.623s	1.244s	1.861s	2.476s	3.630s	4.501s	5.149s	6.527s
2.266.04	0.620s	1.238s	1.854s	2.468s	3.618s	4.485s	5.125s	6.497s



Example Showing the Use of Cross Curves

The righting lever (GZ) at any particular angle of heel (ϕ) is calculated using the following equation:

$$GZ = KN - KG(f) \sin(\phi)$$

Where:

KN = Ordinate taken from Cross Curves of Stability for actual displacement and angle of heel;

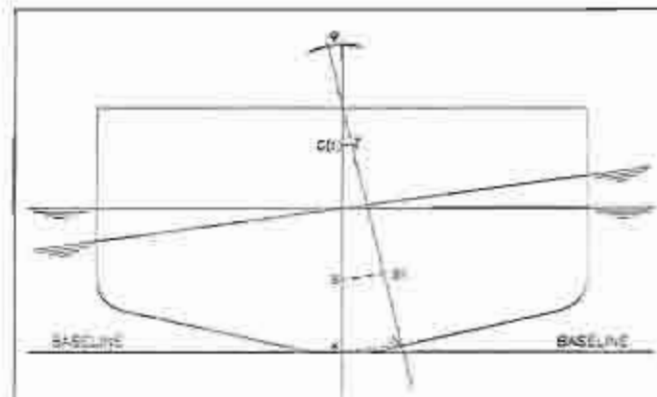
ϕ = Angle of Heel (Deg)

KG(f) = Vertical center of gravity above baseline, corrected for free surface effect

Example:

For displacement of 1912 MT and KG(f) = 6.071 m, the following data is derived:

Angle (Deg)	0	10	15	20	30	40	50	60
KN(m)	0.64	1.27	1.90	2.51	3.65	4.54	5.23	5.68
KG(f) sin(ϕ) (m)	0.528	1.054	1.571	2.076	3.035	3.902	4.651	5.258
GZ(m)	0.108	0.214	0.324	0.437	0.615	0.641	0.578	0.397

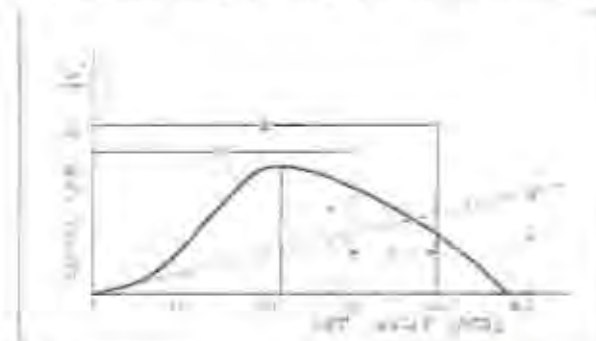


Notes Regarding Intact Stability

As this ship is required to comply with STAB 6 of Transport Canada Publication TP 7301 E, "Standard for the Intact Stability of Non-Passenger Ships and Passenger Ships Carrying Not More Than 12 Passengers", it is important to ensure that in any sailing condition the stability complies with at least the following criteria:

- The initial GM to be not less than 0.15 [m];
- Area under GZ curve from 0° to 40°, or 0° to downflooding point, or 0° to point of zero righting arm (whichever is less), is to be not less than 0.05 [m-rad];
- Area under GZ curve from 0° to 30° is to be not less than 0.056 [m-rad];
- Area under GZ curve from 30° to 40°, or 30° to downflooding point, or 30° to point of zero righting arm (whichever is less), is to be not less than 0.03 [m-rad];
- Maximum GZ to occur at an angle preferably exceeding 30°, but not less than 25°;
- GZ at 30° or greater is to be not less than 0.20 [m];

Note: The breakdown of consolidated weights has been included in Appendix D.



Flume Tank

The flume tank is fitted on this vessel to maintain sea kindness, i.e., lengthening the roll period and reduce its amplitude. Fuel oil is employed to fill the tank and direct dumping valves are provided from barge to No.5 fuel oil tank, port and starboard in the event of an emergency. Therefore, No.5 fuel oil tanks must be kept empty when the flume tank carries liquid. It is of the utmost importance for the master to remember: **"THE FLUME TANK MUST BE EMPTIED WHEN DAMAGE OCCURS"**

Summary of Intact Stability Conditions

The following conditions have been analyzed. All cases are in compliance/equivalence with the requirements of STAB 6.

Condition #1 - Lightship Condition	1624.6	3.723	0.863a	1.222	0.2105	0.1410	0.0694	0.415	30.85	0.415	Pass
Condition #2 - Ballast Departure Condition	2094.4	4.450	0.234a	0.999	0.2356	0.1425	0.0931	0.542	32.89	0.534	Pass
Condition #3 - Ballast Arrival Condition	1769.4	3.973	0.345a	1.271	0.2661	0.1052	0.1010	0.565	35.00	0.584	Pass
Condition #4 - Load Line Departure Condition	2115.5	4.476	0.263a	0.916	0.2189	0.1330	0.0660	0.504	32.50	0.499	Pass
Condition #5 - Fully Loaded Intermediate Condition	1924.5	4.212	0.186a	0.864	0.1891	0.1168	0.0715	0.425	32.02	0.419	Pass
Condition #6 - Fully Loaded Arrival Condition	1826.2	4.058	0.346a	1.206	0.2564	0.1582	0.0802	0.588	34.28	0.552	Pass
Condition #7 - ROV Departure Condition - ROPOS on Fore Deck	2092.3	4.456	0.148a	0.820	0.1936	0.1160	0.0756	0.446	31.77	0.444	Pass
Condition #8 - ROV Operating Condition - ROPOS on Fore Deck	2094.9	4.463	0.108a	0.833	0.1936	0.1228	0.0711	0.431	30.00	0.431	Pass
Condition #9 - ROV Departure Condition 2 - ROPOS on Upper Deck	2122.8	4.479	0.333a	0.858	0.2001	0.1280	0.0791	0.470	31.52	0.468	Pass
Condition #10 - ROV Operating Condition 2 - ROPOS on Upper Deck	2122.8	4.479	0.315a	0.860	0.2123	0.1371	0.0752	0.460	28.62	0.456	Pass
Condition #11 - Worst Operating Condition	2042.5	4.395	0.052a	0.881	0.1971	0.1216	0.0758	0.447	31.45	0.445	Pass
Condition #12 - Iced Ballast Departure Condition (STAB 7)	2114.4	4.481	0.110a	0.854	0.1667	0.0968	0.0602	0.367	30.67	0.367	Pass
Condition #13 - Iced Ballast Arrival Condition (STAB 7)	1686.4	4.078	0.538a	0.967	0.1981	0.1254	0.0727	0.435	31.49	0.432	Pass
Condition #14 - Iced Load Line Departure Condition (STAB 7)	2125.9	4.504	0.065a	0.873	0.1968	0.0880	0.0510	0.323	30.00	0.323	Pass
Condition #15 - Iced Fully Loaded Intermediate Condition (STAB 7)	1971.6	4.288	0.101a	0.907	0.1102	0.0700	0.0394	0.257	30.00	0.257	Pass
Condition #16 - Iced Fully Loaded Arrival Condition (STAB 7)	1917.8	4.192	0.304a	0.876	0.1679	0.1173	0.0706	0.421	31.86	0.410	Pass

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CNS 11.02

STX Canada Marine, Inc.
COGS JOHN P. Tully
NO.1 LIGHTSHIP CONDITION

HEIGHT AND DISPLACEMENT STATUS
USK DRAFT draft: 3.346 # 30.785, 4.612 # 24.63a
Trim: Aft 0.683/34.875, Heel: Stbd 2.24 deg.

Fast-----Height (MT)-----LCB-----TCB-----VCG-----PSB
HEIGHT 1.624.60 2.555a 0.041a 6.457
Load-----SpGr-----Displ (MT)-----LCB-----TCB-----VCG-----PSB
Total Tanks-----> 0.00 0.00
Displ (MT)-----LCB-----TCB-----VCG-----PSB
BULL 1.025 1.624.58 2.444a 0.211a 2.290 -3.10a
Righting Arms: 0.000 2.000a
Distances in METERS----->Distances in M.-KT.

FREBOARD STATUS

USK DRAFT draft: 3.346 # 30.252, 4.330 # 24.63a
Trim: Aft 0.683/34.875, Heel: Stbd 2.24 deg.
Load: Freeboard 14 3.283 - located at 32.130a
Least side freeboard (to margin line) is 3.151 a. located at 32.130a

HYDROSTATIC PROPERTIES

Trim: Aft 0.683/34.875, Heel: Stbd 2.24 deg., VCG = 6.457

Draft Displacement Buoyancy-Ctr. Weight/ Moment/
Origin-----Weight (MT)-----LCB-----VCG-----TCB-----PSB-----Trim-----Displ-----GWT
3.723 1.624.58 2.444a 2.290 4.73 2.555a 25.52 86.15 1.222
Distances in METERS----->Specific Gravity = 1.025----->Moment in m.-KT.
Trim is per station.

Draft is from USK DRAFT.

01/29/09 15:54:22
CNS 11.50

STX Canada Marine, Inc.
COGS JOHN P. Tully
NO.1 LIGHTSHIP CONDITION

RIGATING ARMS vs REEL ANGLE
LCB = 2.555a TCB = 0.041a VCG = 6.457

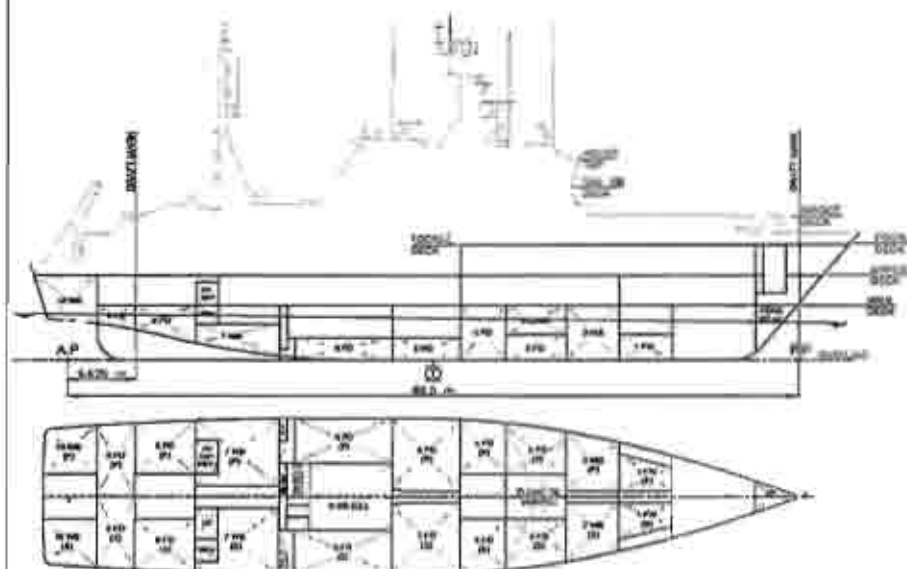
Origin	Degrees of	Displacement	Righting Arms	Flood Ft
Depth	Trim	Heel	in Trim	in Heel
3.704	0.71a	2.24a	1.624.53	0.000
3.692	0.68a	4.74a	1.624.60	0.002
3.688	0.65a	7.24a	1.624.60	0.003
3.636	0.58a	9.74a	1.624.60	0.000
3.592	0.51a	12.24a	1.624.60	0.000
3.535	0.43a	14.74a	1.624.60	0.000
3.473	0.34a	17.24a	1.624.59	0.000
3.393	0.24a	19.74a	1.624.59	0.000
3.298	0.13a	22.24a	1.624.60	0.000
3.187	0.02a	24.74a	1.624.60	0.000
3.060	0.10a	27.24a	1.624.60	0.000
2.917	0.21a	29.74a	1.624.60	0.000
2.843	0.27a	30.55a	1.624.60	0.000
2.760	0.33a	32.24a	1.624.60	0.000
2.703	0.37a	33.09a	1.624.60	0.000
2.590	0.44a	34.74a	1.624.60	0.000
2.410	0.53a	37.24a	1.624.22	0.000
2.222	0.59a	39.74a	1.624.40	0.000
2.026	0.63a	42.20a	1.624.54	0.000
1.822	0.65a	44.70a	1.624.33	0.000
1.611	0.64a	47.20a	1.624.63	0.000
1.394	0.61a	49.70a	1.624.80	0.000
1.173	0.56a	52.20a	1.624.61	0.000
1.001	0.52a	54.20a	1.624.62	0.000

Distances in METERS----->Specific Gravity = 1.025----->Area in M.-Rad.

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.

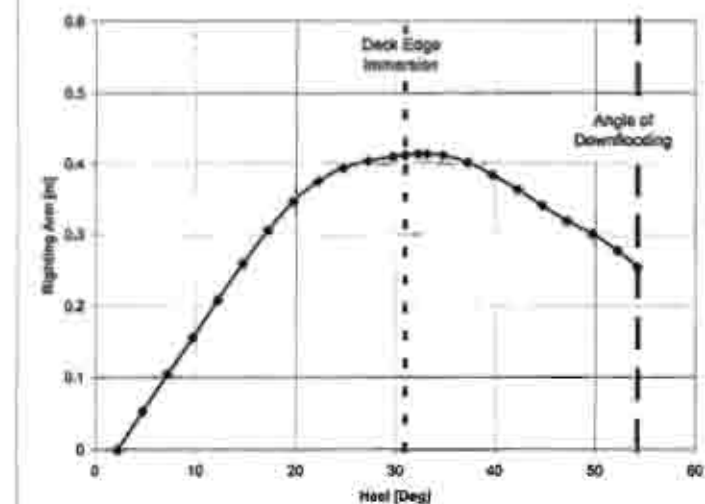
Critical Point----->LCB-----TCB-----VCG
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300

No.1 Lightship Condition



Note: All oceans shown with boom positioned forward.

No.1 Lightship Condition

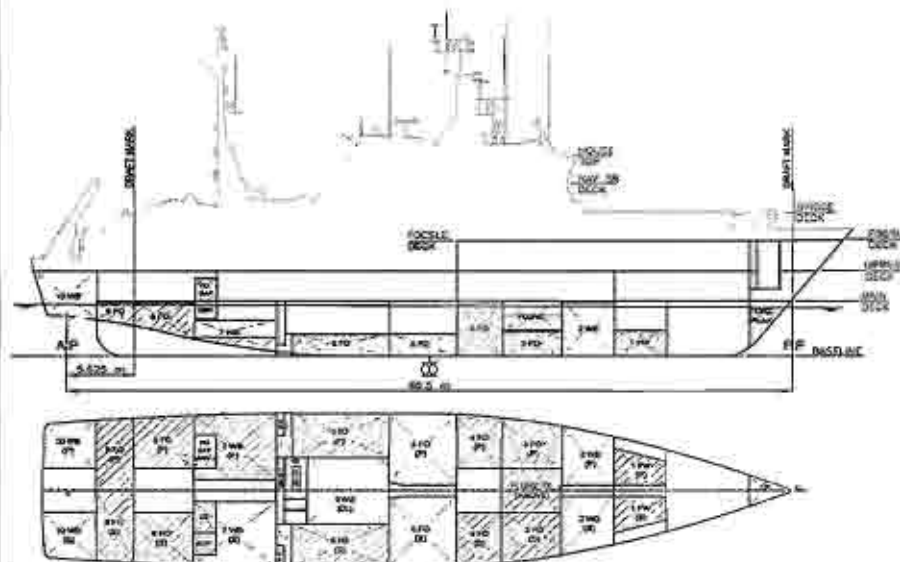


STAB & INTACT STABILITY CRITERIA		Min/Max	Attained
(1) Area from 0 deg to 40 or Flood	>	0.0900 m.-Rad	0.2105 P
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.1410 P
(3) Absolute Angle at Flood	>	0.00 deg	54.20 P
(4) Righting Arm at 30 deg	>	0.200 m.	0.415 P
(5) GM at Equilibrium	>	0.150 m.	1.222 P
(6) Angle from 0 deg to MaxRA	>	25.00 deg	30.85 P

Relative angles measured from 2.242s

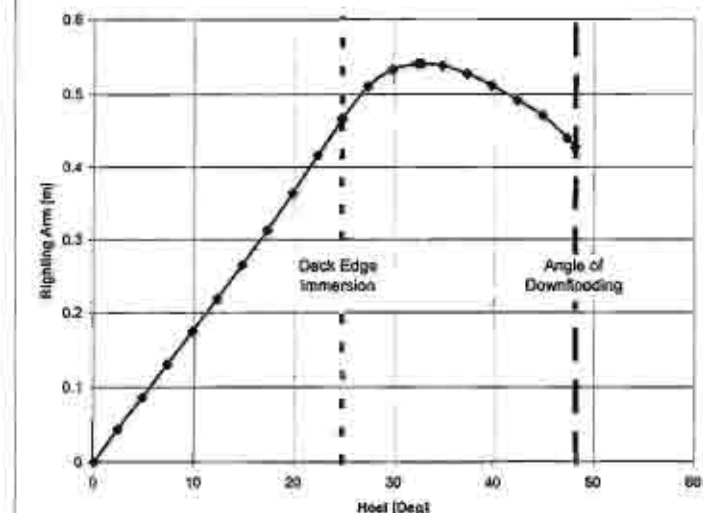
01/30/09 06:33:38		STX Canada Marine, Inc.			
08E 11.30		0000 JORD P. Tully			
		NO.2 BALLAST DEPARTURE CONDITION			
RIGHTING AND DISPLACEMENT STATUS					
USK DRAFT draft: 4.521 @ 30.255, 4.550 @ 24.63a					
Trim: Aft 0.236/54.875, Heel: Port 0.00 deg.					
Part	Weight (MT)	LCD	TCG		
LIGHT SHIP	1,424.60	2.395a	0.046a		
AFT STORES	5.00	22.350a	1.330p		
END STORES	2.00	30.000a	0.000		
Galley Stores	24.00	20.250a	0.000		
Gas in Jettisonable Tank	1.68	20.250a	4.100p		
45 Crew and Aircrew @ 127	1.00	0.000	0.000		
Total Fixed	1,458.28	2.401a	0.041a		
Load	SpGr	Height (MT)	TCG		
TK1 MB.F	0.900	1.025	14.80a		
TK2 FO.F	0.950	0.840	17.32		
TK3 FO.S	0.950	0.840	17.32		
TK4 FO.F	0.950	0.840	17.32		
TK4 FO.S	0.950	0.840	17.32		
TK5 FO.F	0.950	0.840	17.32		
TK5 FO.S	0.950	0.840	17.32		
TK6 FO.F	0.950	0.840	17.32		
TK6 FO.S	0.950	0.840	17.32		
TK7 FO.F	0.950	0.840	17.32		
TK7 FO.S	0.950	0.840	17.32		
TK8 FO.F	0.950	0.840	17.32		
TK8 FO.S	0.950	0.840	17.32		
TK9 FO.F	0.950	0.840	17.32		
TK9 FO.S	0.950	0.840	17.32		
TK10 FO.F	0.950	0.840	17.32		
TK10 FO.S	0.950	0.840	17.32		
TK11 FO.F	0.950	0.840	17.32		
TK11 FO.S	0.950	0.840	17.32		
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TK13 FO.S	0.950	0.840	17.32		
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TK14 FO.S	0.950	0.840	17.32		
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TK124 FO.S	0.950	0.840	17.32		
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TK125 FO.S	0.950	0.840	17.32		
TK126 FO.F	0.950	0.840	17.32		
TK126 FO.S	0.950	0.840	17.32		
TK1					

No.2 Ballast Departure



Note: Aft crane stowed with boom positioned forward.

No.2 Ballast Departure



LIM-----STAR 5 INTACT STABILITY CRITERIA-----Min/Max-----Attained			
(1) Area from 0 deg to 40 or Flood	>	0.0900 m.-Rad	0.2356 P
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.1425 P
(3) Absolute Angle at Flood	>	0.00 deg	48.23 P
(4) Righting Arm at 30 deg	>	0.200 m.	0.534 P
(5) GM at Equilibrium	>	0.150 m.	0.999 P
(6) Angle from 0 deg to MaxRA	>	25.00 deg	32.89 P
-----Relative angles measured from 0.08T-----			

01/30/09 09:25:35
GHS 11:30

STX Canada Marine, Inc.
CCGS JOHN P. Tully
NO.3 BALLAST ARRIVAL CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 3.783 @ 30.025, 4.127 @ 24.83a
Trim: Aft 3.345/54.875, Heel: Stbd 0.11 deg.

Part		Weight (MT)	LCG	TCG	VOG	
LIGHT SHIP		1,624.80	2.595a	0.018a	4.437	
AFT STORES		5.00	23.350a	1.330p	4.554	
FWD STORES		3.00	30.000a	0.000	8.500	
Galley Stores		7.00	20.250a	0.000	6.000	
Gas in Jettisonable Tk		0.69	20.755a	6.100p	11.800	
60 Cow and Effects @ 125		5.00	0.000	0.000	11.000	
Total Fixed----->		1,645.28	2.498a	0.041a	5.475	
	Load	Spd	Weight (MT)	LCG	TCG	VOG
TK2_WB.P	0.400	1.025	33.23	13.472a	2.082p	1.589
TK6_WB.C	1.200	1.025	42.22	6.781a	0.009	0.706
TK5_FO.P	0.900	0.840	17.33	0.570a	2.392p	0.837
TK5_FO.S	0.900	0.840	17.33	0.573a	2.405a	0.838
TK1_FW.P	0.100	1.000	1.89	17.350a	0.974p	0.277
TK1_FW.S	0.100	1.000	1.89	17.349a	0.976a	0.277
CFP_OIL.P	0.500	0.390	0.62	11.385a	0.903p	0.435
SLUDGE.S	0.223	1.000	0.77	11.293a	1.251a	0.404
SEWAGE.S	0.900	0.890	4.37	18.659a	5.300a	3.965
FOOT.P	0.500	0.840	4.89	18.689a	3.499p	5.425
Total Tanks----->			124.14	0.011a	0.503p	1.266
Total Weight----->			1,769.42	2.523a	0.002a	6.109
			Displ (MT)	LCG	TCG	VOG
HULL	1.025		1,769.42	2.347a	0.013a	2.412
Righting Arm(s)			0.000	0.000		
Distances in METERS			Moments in m.-MT			

FREESBOARD STATUS

USK DRAFT draft: 3.783 @ 30.025, 4.127 @ 24.83a
Trim: Aft 3.345/54.875, Heel: Stbd 0.11 deg.
Least freeboard is 3.438 m. located at 22.130a
Least extra freeboard (to margin line) is 3.366 m. located at 33.130a

HYDROSTATIC PROPERTIES

Trim: Aft 3.345/54.875, Heel: Stbd 0.11 deg., VOG = 5.109

Draft	Displacement	Buoyancy-Ctr.	Weight	Moment				
Origin	Weight (MT)	LCG	TCG	VOG	Heel (a)	GM	GM	GM
3.975	1,769.42	3.347a	3.412	6.84	8.473a	25.62	61.55	1.271
Residuals in METERS.-----Specific Gravity = 1.025.-----Moment in m.-MT.								
Trim is per 0.038m.								
Draft is from USK DRAFT. True from Surface Included.								

01/30/09 11:54:22
GHS 11:30

STX Canada Marine, Inc.
CCGS JOHN P. Tully
NO.3 BALLAST ARRIVAL CONDITION

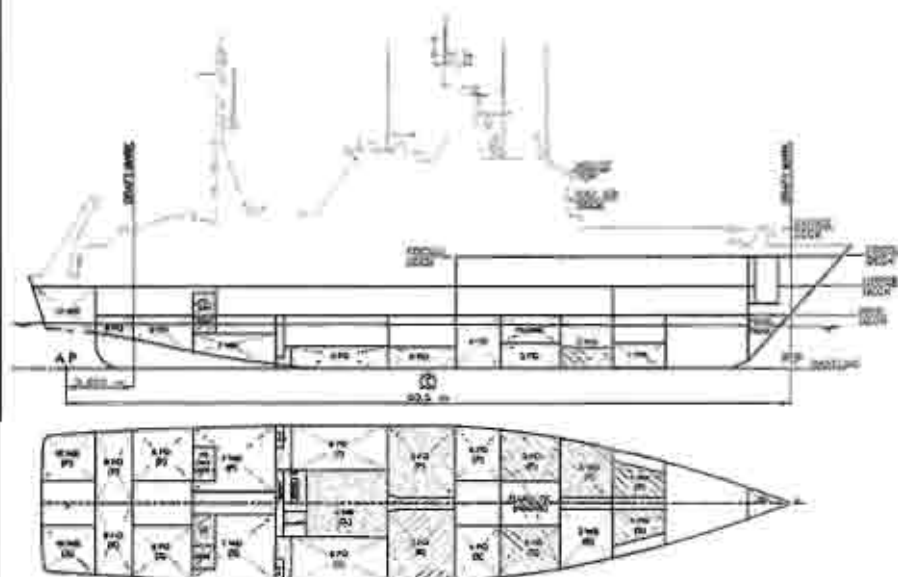
RIGHTING ARMS vs HEEL ARMS
Total CG: LCG = 2.323a TCG = 0.003a VOG = 6.109
Free Surface Adjustment: 0.089
Adjusted CG: LCG = 2.324a TCG = 0.002a VOG = 6.199

Origin	Degrees of	Displacement	Righting Arms	Flood Pt		
Depth	Trim	Heel	Weight (MT)	Area	Height	
3.959	3.36a	3.11a	1,769.42	0.000	0.000	7.279(1)
3.952	3.35a	3.41a	1,769.41	0.000	0.056	6.970(1)
3.937	3.22a	3.11a	1,769.41	0.000	0.111	6.652(1)
3.911	3.28a	7.61a	1,769.41	0.000	0.165	6.324(1)
3.875	0.23a	10.11a	1,769.41	0.000	0.219	5.990(1)
3.829	0.17a	12.61a	1,769.41	0.000	0.274	5.649(1)
3.770	0.10a	15.11a	1,769.41	0.000	0.329	5.301(1)
3.701	0.01a	17.61a	1,769.42	0.000	0.383	4.949(1)
3.619	0.07a	20.11a	1,769.42	0.000	0.438	4.594(1)
3.522	0.16a	22.61a	1,769.41	0.000	0.478	4.240(1)
3.408	0.26a	25.11a	1,769.41	0.000	0.513	3.888(1)
3.278	0.37a	27.61a	1,769.41	0.000	0.541	3.539(1)
3.110	0.41a	28.80a	1,769.42	0.000	0.552	3.1824 Marg Lim.
2.101	0.47a	30.11a	1,769.42	0.000	0.564	2.828(1)
1.971	0.58a	32.61a	1,769.42	0.000	0.580	2.480(1)
2.800	0.64a	35.11a	1,769.41	0.000	0.585	2.133(1)
2.757	0.65a	35.71a	1,769.42	0.000	0.584	1.781(1)
2.601	0.70a	37.61a	1,769.42	0.000	0.581	1.431(1)
2.432	0.73a	40.11a	1,769.42	0.000	0.570	1.077(1)
2.256	0.74a	42.61a	1,769.42	0.000	0.556	0.727(1)
2.038	0.72a	45.11a	1,769.41	0.000	0.540	0.376(1)
1.818	0.69a	47.61a	1,769.40	0.000	0.525	0.023(1)
1.692	0.64a	50.11a	1,769.42	0.000	0.503	0.363(1)
1.369	1.55a	52.57a	1,769.42	0.000	0.474	0.3813 -0.000(1)
Distances in METERS. Specific Gravity = 1.025. Area in m.-Rad.						

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 158.1 m.-MT was applied to artificially modify the CG.

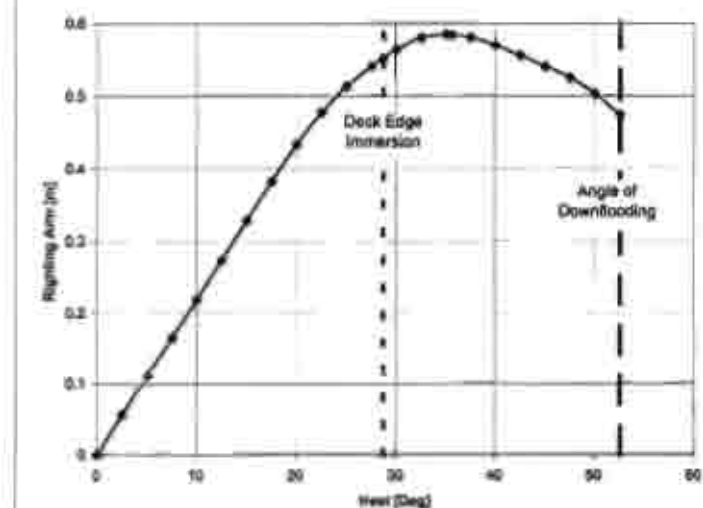
Collision Point: ICR TCG VOG
11 CAPTAIN'S ROOM WINDOW FLOOD 7.638a 7.423a 11.309

No.3 Ballast Arrival



Note: Aft crane stowed with boom positioned forward.

No.3 Ballast Arrival



-----STAR & INTACT STABILITY CRITERIA-----		min/max	Attained
(1) Area from 0 deg to 40 or Flood	>	0.0300 m-Rad	0.2661 F
(2) Area from 0 deg to 30	>	0.0550 m-Rad	0.1652 F
(3) Absolute Angle at Flood	>	0.00 deg	52.57 F
(4) Righting Arm at 30 deg	>	1.200 m	0.564 F
(5) GZ at Equilibrium	>	0.150 m	1.271 F
(6) Angle from 0 deg to 15 deg	>	15.00 deg	35.00 F

-----Relative angles measured from 0.111

01/30/03 09:22:33
\$58 11.50

STN Canada Marine, Inc.
COGS JOHN P. Tully
LOAD LINE DEPARTURE CONDITION

WEIGHT AND DISPLACEMENT STATUS

15% DRIFT draft: 4.328 @ 30.232, 4.586 @ 24.624
Trim: Aft 0.266/34.875, Heel: Port 0.13 deg.

Item	Lead	SeGr	Weight (MT)	LCG	TCG	VCG	TCM
LIGHT SHIP			1,824.00	2.195a	2.848a	9.927	
AFT STORES			5.00	22.350a	1.310p	6.554	
FWD STORES			3.00	30.600a	0.000	8.500	
Galley Stores			14.00	20.250a	0.000	6.000	
Gas in Jacksonville Tk			0.68	20.390a	6.100p	11.000	
40 Gases and Effluents @ 12%			5.00	0.000	0.000	11.000	
UPPER DECK MACHINERY			17.10	38.490a	0.050a	8.130	
UPPER DECK CONTAINER			4.35	36.120a	4.450p	8.600	
FOOBL DECK MACHINERY			8.88	3.320a	4.370a	11.000	
FOOBL DECK CONTAINER			5.88	14.350a	5.480a	11.300	
HELICOPTER			3.50	21.000a	0.000	14.300	
ROCKETRY EQUIPMENT			0.00	0.700a	5.600a	9.000	
Total Fixed----->			1,889.97	2.653a	0.069a	6.543	
	Lead	SeGr	Weight (MT)	LCG	TCG	VCG	TCM
TK2_WB.F	0.200	1.325	16.61	13.878a	1.827p	1.019	16.77
TK3_WB.F	0.350	0.840	17.32	8.338a	3.448p	1.502	17.04
TK4_WB.F	0.950	0.840	52.98	4.091a	4.137p	2.525	27.06
TK1_FW.F	0.950	0.840	52.98	4.081a	4.137a	2.525	27.06
TK2_FW.F	0.950	0.840	23.39	7.343a	4.580p	1.444	33.58
TK3_FW.F	0.950	0.840	23.39	7.343a	4.373a	2.444	33.51
TK4_FW.F	0.950	0.840	26.56	21.900a	4.105a	3.797	35.02
TK5_FW.F	0.950	0.840	26.56	21.900a	4.103a	3.797	35.00
TK6_FW.F	0.950	0.840	23.11	24.093a	2.759p	6.071	27.54
TK7_FW.F	0.950	0.840	23.11	24.093a	2.744a	4.071	27.58
TK1_FW.S	2.880	1.000	14.65	17.368a	1.913p	1.322	4.86
TK1_FW.S	2.880	1.000	14.66	17.369a	1.918a	1.322	6.85
FLWKS.C	0.430	2.025	13.21	4.410a	0.017p	2.908	708.76
OFF_OIL.F	0.900	0.890	0.63	11.185a	0.869p	0.435	0.50
SLURRS.S	6.223	1.000	0.77	12.077a	1.257a	0.404	0.90
SNRAGS.S	3.100	0.890	0.49	18.896a	5.229p	3.285	0.70
FOOAT.F	0.850	0.840	9.22	18.688a	2.501p	5.894	3.49
Total Tanks----->			825.50	3.161a	0.396p	2.809	1008.82
Total Weight----->			3,119.47	2.766a	0.463a	9.792	
	Slap1 (MT)			LCG	TCG	VCG	SeGr
NULL	3.020		2,115.48	2.775a	0.408p	2.711	-6.46

Righting Arms:

2000 2-000

Distances in METERS MILES in m.-mi.

FREEBOARD STATUS

Trunk: Adm 0.266/64.873, Mail: Post 0.12 sec.

Louise Freese et al., eds. *In Local Context*. pp. 32-130.

a freeboard (to margin line) is 2.007 m. located at 32/1305

HYDROSTATIC PROPERTIES

Truss: Aft 2,366/34,878, Wheel: Post 7.17 deg., WCD = 5,792

01/20/2019 19:54:22
GPS: 11.50

STX Canada Marine, Inc.
COGS JOHN P. Tully
LOAD LINE DEPARTURE CONDITION

Year	Displacement	Submarine	Boat
1990	100	100	100
1991	100	100	100
1992	100	100	100
1993	100	100	100
1994	100	100	100
1995	100	100	100
1996	100	100	100
1997	100	100	100
1998	100	100	100
1999	100	100	100
2000	100	100	100
2001	100	100	100
2002	100	100	100
2003	100	100	100
2004	100	100	100
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2021	100	100	100
2022	100	100	100
2023	100	100	100
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2027	100	100	100
2028	100	100	100
2029	100	100	100
2030	100	100	100
2031	100	100	100
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2040	100	100	100
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2070	100	100	100
2071	100	100	100
2072	100	100	100
2073	100	100	100
2074	100	100	100
2075	100	100	100
2076	100	100	100
2077	100	100	100
2078	100	100	100
2079	100	100	100
2080	100	100	100
2081	100	100	100

Distances in METERS ----- Specific Gravity = 1.025 ----- Moment in m.-WT.
Trim is per 34,88m.

DRAFT IS FROM USK DRAFT.

True Free Surface included.

RIGHTING PLUG vs. HEEL ANGLE

Total CG: LCG = 2.760a TCG = 0.003p WCG = 5.792

Free Surface Adjustment	0.305
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Adjusted CO: ACG = 2.765; ACR = 0.002; VCG = 6.297

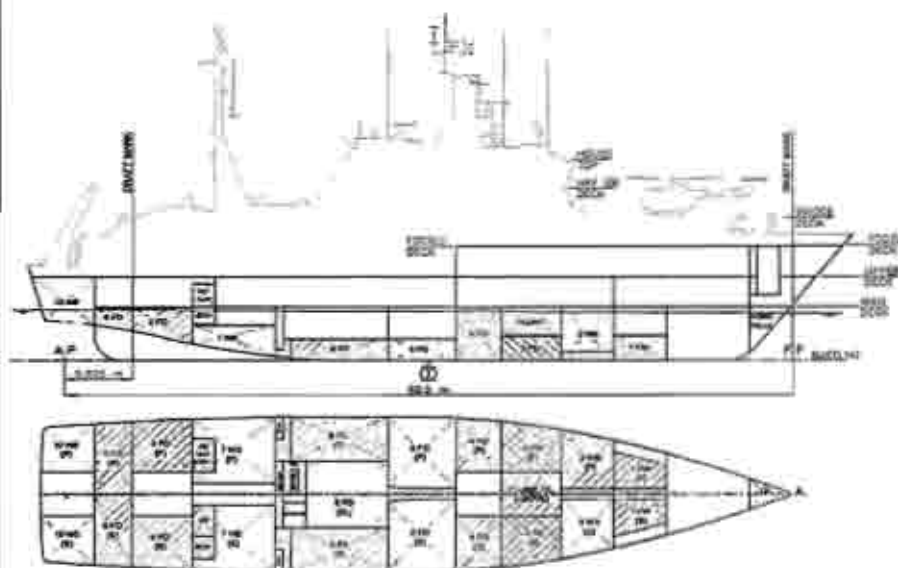
Origin	Degrees of	Displacement	Righting Arms	Flooded Pt	
Degrees	True	Beam	Weight (MT)	Height	
0.442	0.28w	2.11w	2,115.78	0.0000	6.787(1)
0.457	0.29w	2.19w	2,115.29	0.0000	6.506(1)
0.441	0.27w	4.89w	2,115.01	0.0000	6.184(1)
0.413	0.26w	7.39w	2,115.47	0.0000	5.855(1)
0.378	0.24w	9.89w	2,115.47	0.0000	5.519(1)
0.330	0.21w	12.39w	2,115.47	0.0000	5.177(1)
0.270	0.16w	14.89w	2,115.47	0.0000	4.829(1)
0.199	0.11w	17.39w	2,115.47	0.0000	4.476(1)
0.116	0.06w	19.89w	2,115.47	0.0000	4.120(1)
0.020	0.01w	22.39w	2,115.47	0.0000	3.762(1)
0.001	0.00w	24.89w	2,115.82	0.0000	3.403(1)
0.000	0.00w	26.89w	2,115.10	0.0000	3.140(1)
0.000	0.00w	27.39w	2,115.47	0.0000	2.880(1)
0.000	0.00w	28.89w	2,115.47	0.0000	2.688(1)
0.000	0.00w	30.39w	2,115.59	0.0000	2.523(1)
0.000	0.00w	33.09w	2,115.95	0.0000	2.330(1)
0.000	0.00w	34.89w	2,115.47	0.0000	1.953(1)
0.172	0.00w	37.39w	2,115.59	0.0000	1.581(1)
0.995	0.18w	39.89w	2,115.33	0.0000	1.207(1)
2.808	0.10w	42.39w	2,115.85	0.0000	0.831(1)
2.612	0.03w	44.89w	2,115.17	0.0000	0.457(1)
0.013	0.00w	47.39w	2,114.96	0.0000	0.079(1)
0.372	0.07w	57.31w	2,115.89	0.0000	-0.001(1)

Distances in METERS.---Specific Gravity = 1.035.-----Area in sq. ft.

Notes: The Weights and Center of Gravity used for the sighting 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 1068.8 m.-MT was applied, to artificially modify the CG.

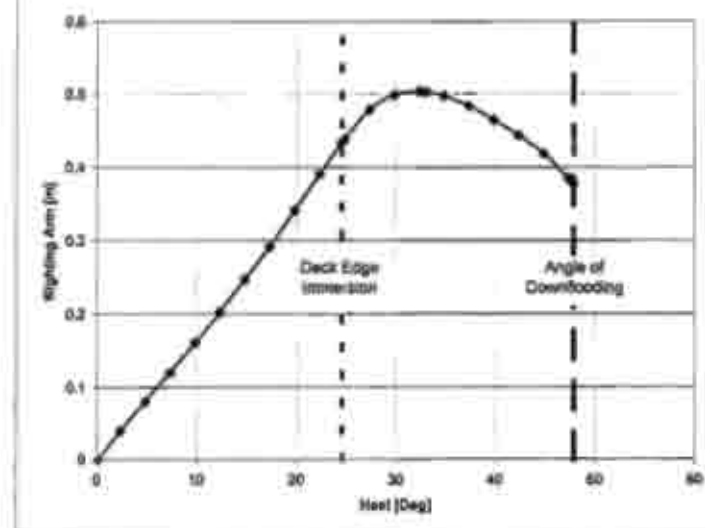
Critical Point		LCP	TCP	UCP
(1) CAPTAIN'S ROOM WINDOW	FLOOD	7.630a	7.500	11.300

No.4 Load Line Departure



Note: Aft end stowed with boom positioned forward.

No.4 Load Line Departure



STAB & INTACT STABILITY CRITERIA		Min/Max	Attained
(1) Area from 0 deg to 40 or Flood	>	0.0900 m.-Rad	0.2169 P
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.1330 P
(3) Absolute Angle at Flood	>	0.60 deg	47.91 P
(4) Righting Arm at 30 deg	>	0.200 m	0.499 P
(5) GM at Equilibrium	>	0.150 m	0.918 P
(6) Angle from 0 deg to HeelH	>	25.00 deg	32.50 P

Relative angles measured from 0.106

01/20/2018 09:18:36
\$11.50

SVX Canada Marine, Inc.
 6000 JOHN P. Tully
 7 LOADED INTERMEDIATE COMPETITOR

NO. 5 FULLY LOADED INTERMEDIATE CONDITION

WEIGHT and DISPLACEMENT STATUS

USE CRAFT DATA: 4.203 @ 20.255, 4.301 @ 24.604
TIME AT 3.136/34.329. Fuel: Pgn 0.08 day.

Trans: Att 3.136/34-275. Reel: Form 2.12 day.

Item	Weight (MT)	CGC	TCG	VCG			
LIGHT SNIP	1,424.40	2,595.0	4,048.0	4,437.0			
AFT STORES	5.00	27,350.0	1,320.0	4,464.0			
FWD STORES	3.00	32,000.0	0.000	6,340.0			
Galley Stores	7.00	28,280.0	6.000	4,000.0			
Gas in Jettableable TX	0.68	23,280.0	4,109.0	11,600.0			
28 Crew and Effects # 114	5.00	0.400	5,400.0	11,900.0			
UPPER DECK MACHINERY	17.10	19,400.0	0,050.0	8,100.0			
UPPER DECK CONTAINER	4.15	26,100.0	4,450.0	4,900.0			
FOCSLE DECK MACHINERY	0.88	1,300.0	4,675.0	12,000.0			
FOCSLE DECK CONTAINER	3.86	14,350.0	5,469.0	12,300.0			
HELICOPTER	2.50	21,400.0	0,000.0	14,300.0			
ROCKET EQUIPMENT	0.90	0,700.0	2,400.0	9,000.0			
Total Fixed----->	1,882.37	2,754.0	0,069.0	6,345.0			
	Load	Spd	Weight (MT)	CGC	TCG	VCG	TRK
TKT WG.F	2,740	0.835	27.35	15,468.0	1,455.0	1,924	102.16
TKT FO.F	0.500	0.890	27.88	1,083.0	2,978.0	1,922	24.24
TKO FO.S	0.500	0.840	27.88	4,261.0	2,977.0	1,913	24.23
TK6 FO.F	0.888	0.840	33.89	7,133.0	4,573.0	1,404	23.56
TK6 FO.S	0.934	0.840	23.38	9,354.0	4,134.0	1,404	23.56
TK1 FW.F	0.500	1.000	8.45	17,166.0	1,323.0	0.820	1.87
TK1 FW.S	0.500	1.000	8.45	17,166.0	1,323.0	0.820	1.86
FLAME.C	0.400	1.025	15.21	7,121.0	3,210.0	2,305	306.79
CVF GIL.F	0.300	0.890	0.62	11,165.0	0,980.0	0.435	0.50
SLUDGE.S	0.500	1.000	1.72	11,134.0	1,307.0	0.573	1.77
SHARGE.S	0.800	2.090	2.13	22,489.0	5,306.0	1,623	2.77
FOCAP.F	0.500	0.840	4.99	12,488.0	2,903.0	1,425	3.49
Total Tanks----->			241.05	1,258.0	4,993.0	1,204	963.88
Total Weight----->			1,924.42	2,971.0	0,301.0	5,591.0	
			Slap (MT)	CGC	TCG	VCG	TRK
HULL	1,885		1,924.33	2,344.0	0,303.0	2,240	-4.11

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.....
             Sighting Area                      0.000  0.000
Distances in METERS, ..... Distances in MILES

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FORWARD STATE

NEW DRAFT status: 8.103 @ 20.254, 8.301 @ 20.414

Telex: AIG 2-156/44, 275. Fax: Page 2-56 reg.

Least Freeboard is 3.283 m. located at 22.130a

Least extra forehead (to margin line) is 2.217 in. located at 30:1304

HYDROLYTIC PROPERTIES

Traut Aft 4, 154754, 472. Head: Post 2.26 deg., VHS = 2.97.

Draft Displacement: Buoyancy-Corr. Weight? Speed?
 Original Weight (MT) --- --- --- ---
 4.212 1,204.54 1,384.8 3,548 6.87 5.375m 17.45 73.69 8.944
 Distances in METERS. Specific Gravity = 1.025 --- --- ---
 --- --- --- --- --- --- --- ---
 Draft is from USN DRAFT. Trim is per 54,828a. True Free Surface included.

2017/07/28 15:04:23
2018. 21. 22

STX Canada Marine, Inc.
CCGS JOHN F. Tully

NO. 3 FULLY LOADED INTERMEDIATE CONDITION

SHOOTING ARMS vs. HELL ANGELS

Total CG: LCG = 2.171a, TCG = 0.001p, VCG = 2.981

Free Surface Adjustment: 0.490

adjusted CG: LCG = 6.373a, TCG = 3.051, VCG = 6.482

Grain	Diameter of	Displacement	Righting Arms			Flood Pt
Emph	Trin	How	Weight (MT)	In Trin	In Heel	Height
4.139	0.23a	0.06p	1,925.07	0.000	0.000	3.0000
4.152	0.20a	2.40a	1,924.19	0.000	0.038	0.0009
4.178	0.18a	4.90a	1,924.62	0.000	0.075	0.0033
4.152	0.15a	7.40a	1,924.62	0.000	0.111	0.0073
4.115	0.12a	9.90a	1,924.62	0.000	0.148	0.0130
4.067	0.07a	12.40a	1,924.62	0.000	0.185	0.0200
4.005	0.05a	14.90a	1,929.62	5.000	0.223	0.0291
3.925	0.04a	17.40a	1,934.62	8.000	0.263	0.0397
3.850	0.03a	19.90a	1,939.62	0.000	0.304	0.0521
3.768	0.01a	22.40a	1,944.61	0.000	0.342	0.0669
3.688	0.005	25.90a	1,949.62	0.000	0.380	0.0845
3.585	0.00a	28.40a	1,954.62	2.000	0.398	0.0941
3.519	0.00a	28.40a	1,954.62	0.000	0.401	0.0987
3.474	0.07a	28.40a	1,959.62	0.000	0.413	0.1066
3.464	0.03a	31.90a	1,964.62	0.000	0.423	0.1113
3.418	0.00a	32.40a	1,969.62	0.000	0.423	0.1150
3.362	0.00a	31.90a	1,974.62	0.000	0.415	0.1184
3.277	0.01a	37.40a	1,979.62	0.000	0.399	0.1172
3.259	0.01a	39.90a	1,984.62	0.000	0.378	0.1181
3.238	0.00a	42.40a	1,989.62	0.000	0.353	0.1204
3.207	0.00a	44.90a	1,994.62	0.000	0.327	0.1219
3.090	0.00a	47.40a	1,999.62	0.000	0.297	0.1229
1.876	0.04a	49.90a	1,994.62	0.000	0.258	0.1247
1.822	0.02a	50.50a	1,994.62	0.000	0.246	0.1247

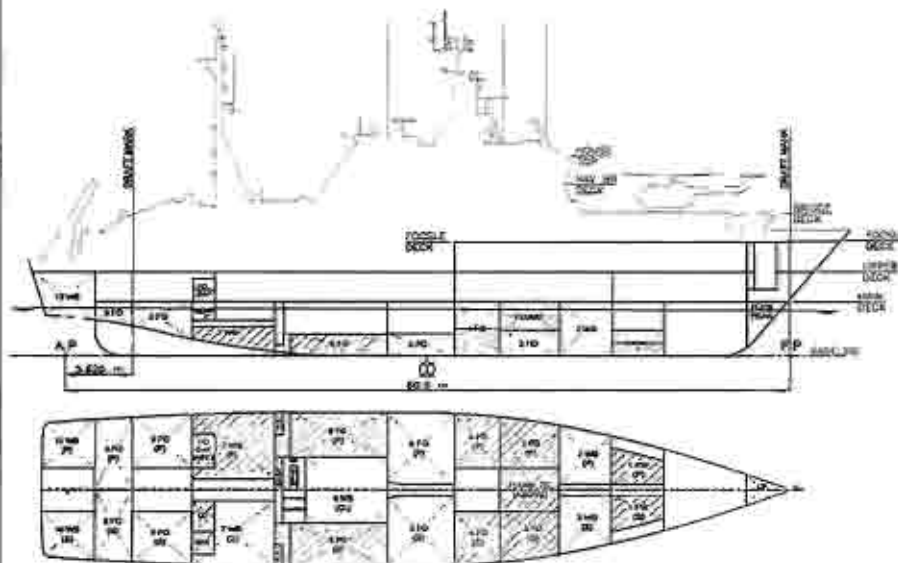
Distance in METERS ----- Specific Gravity = 1.025 ----- Area in m²

Distance in HWTES. --- Specific Gravity = 1.025. --- Time in H. - 24.

Note: The Weight and Center of Gravity used for the righting arm 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 844.5 ft.-ton was applied to artificially modify the CG.

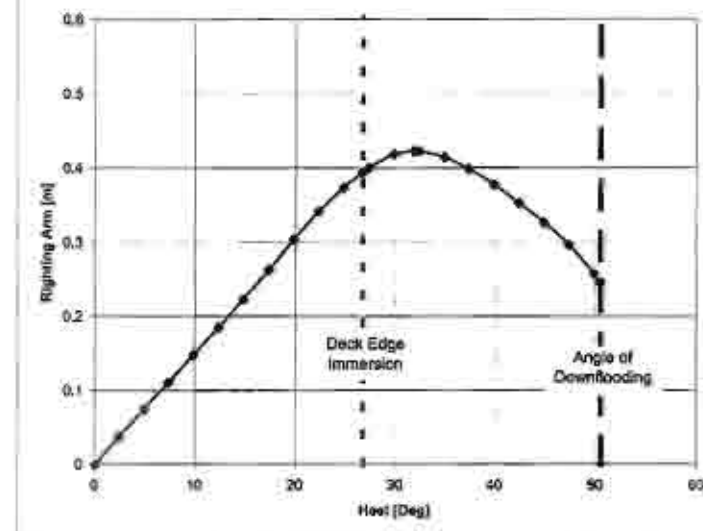
Triaxial Axial	LCF	TCF	VCF
(1) CAPTAIN'S ROOM WINDOW FLOOD	9.6304	9.000	11.500

No.5 Full Load Intermediate



Note: All trans stowed with boom positioned forward.

No.5 Full Load intermediate



STAB 6 INTACT STABILITY CRITERIA		Min/Max	Attained
(1) Area from 0 deg to 40 at Flood	>	0.0900 m.-Rad	0.1881 P
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.1168 P
(3) Absolute Angle at Flood	>	0.00 deg	59.59 P
(4) Righting Arm at 30 deg	>	0.300 m.	0.419 P
(5) Sk at Equilibrium	>	0.150 m.	0.864 P
(6) Angle from 0 deg to MaxR _h	>	25.00 deg	32.02 P

Relative angles measured from 0.058

01/30/04 06:25:19
GNS 11.50STX Canada Marine, Inc.
COGS JOHN F. Tully
NO. 6 FULLY LOADED ARRIVAL CONDITIONHEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 3.867 @ 30.25t, 4.212 @ 24.83t
Trim: Aft 0.346/34.975, Heel: Stbd 0.02 deg.

Part	Weight (MT)	LCG	TCG	VCG
LIGHT SHIP	1,524.60	2.995a	0.049a	8.427
AFT STORES	5.00	22.350a	1.330p	8.556
POD STORES	3.00	30.000a	0.000	8.500
Galley Stores	1.40	20.250a	2.000	6.000
Gas in Jeptoamphib 113	0.35	20.250a	6.100p	11.000
40 Crew and Effects @ 125	5.00	0.000	0.000	11.000
UPPER DECK MACHINERY	17.10	19.490a	0.050a	8.130
UPPER DECK CONTAINER	4.35	26.100a	4.650p	8.600
POCSLE DECK MACHINERY	8.98	8.320a	4.670a	11.000
POCSLE DECK CONTAINER	3.86	14.350a	3.480a	11.300
HELICOPTER	2.50	21.000a	0.000	14.300
ROSETTE EQUIPMENT	0.80	0.700a	5.600a	8.500
Total Placed	1,676.79	2.625a	0.871a	8.546

Load	SpGr	Weight (MT)	LCG	TCG	VCG	PSH
TK6 WB.P	0.700	1.025	59.15	13.082a	2.308p	2.391
TK6 KB.C	1.000	1.025	42.22	6.781a	0.000	0.704
TK6 FO.P	0.500	0.840	17.33	0.271a	2.399p	2.838
TK6 FO.S	0.500	0.840	17.33	0.272a	2.399p	2.838
TK1 WB.P	0.100	1.000	1.69	17.350a	0.975p	0.277
TK1 FW.S	0.100	1.000	1.69	17.350a	0.975a	0.277
CPP OIL.F	0.500	0.890	0.62	11.185a	0.909p	0.835
SLUDGE.S	0.500	1.200	3.09	11.139a	1.499a	0.740
SEWAGE.S	0.500	0.390	4.37	18.459a	5.300a	3.885
TODAY.F	0.500	0.940	4.85	18.689a	3.500p	3.425

Total Tanks----->	251.38	1.975a	0.745p	1.582	170.47
Total Weight----->	1,828.17	2.427a	0.000	6.135	

MULL	1.329	1,828.18	2.450a	0.001a	2.444	-4.044
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Righting Arms	0.000	0.000
Distances in METERS		Meters in m.-MT

FREEDBOARD STATUS

USK DRAFT draft: 3.887 @ 30.25t, 4.212 @ 24.83t
Trim: Aft 0.346/34.975, Heel: Stbd 0.02 deg.

Least freeboard is 3.365 m. located at 27.130a

Least extra freeboard (to margin line) is 3.269 m. located at 34.120a

HYDROSTATIC PROPERTIES

Trim: Aft 0.346/34.975, Heel: Stbd 0.02 deg., VCG = 8.133

Draft	Displacement	Buoyancy-Cor.	Weight	Mooring/				
Origin	Height (MT)	LCG	VCG	LCG	TCG	LCG	TCG	VCG
0.000	1,828.18	2.450a	2.444	8.80	0.975a	21.22	21.75	2.200
Distances in METERS		Specific Gravity = 1.025			Minimum in m.-MT			
		Trim is per 34.88m.						
Draft is from 24K DWART.					True Free Surface Included			

01/30/04 15:44:22
GNS 11.50STX Canada Marine, Inc.
COGS JOHN F. Tully
NO. 6 FULLY LOADED ARRIVAL CONDITIONRIGHTING ARM vs HEEL ANGLE
Total CG: LCG = 2.427a TCG = 0.000 VCG = 8.133
Free Surface Adjustment: 0.083
Adjusted CG: LCG = 2.423a TCG = 0.000 VCG = 8.128

Origin	Degrees of Displacement		Righting Arms		Flood Pt		
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Height
4.044	0.36a	2.02a	1,828.17	0.000	0.000	0.0000	7.206(1)
4.039	0.35a	2.52a	1,828.17	0.000	0.053	0.0012	6.896(1)
4.023	0.33a	3.07a	1,828.17	0.000	0.105	0.0046	6.577(1)
3.990	0.30a	3.52a	1,828.17	0.000	0.156	0.0102	6.250(1)
3.961	0.25a	4.02a	1,828.17	0.000	0.207	0.0182	5.916(1)
3.915	0.19a	4.52a	1,828.17	0.000	0.258	0.0283	5.574(1)
3.857	0.13a	5.02a	1,828.17	0.000	0.310	0.0407	5.226(1)
3.788	0.05a	5.52a	1,828.17	0.000	0.363	0.0554	4.874(1)
3.707	0.03a	6.02a	1,828.17	0.000	0.414	0.0704	4.519(1)
3.610	0.12a	6.52a	1,828.17	0.000	0.459	0.0914	4.164(1)
3.496	0.21a	7.02a	1,828.17	0.000	0.497	0.1132	3.810(1)
3.368	0.31a	7.52a	1,828.17	0.000	0.527	0.1367	3.461(1)
3.228	0.35a	8.02a	1,828.17	0.000	0.533	0.1397	3.112(1)
3.075	0.41a	8.52a	1,828.17	0.000	0.552	0.1582	2.763(1)
2.906	0.50a	9.02a	1,828.17	0.000	0.567	0.1827	2.414(1)
2.724	0.58a	9.52a	1,828.17	0.000	0.569	0.2075	2.065(1)
2.531	0.68a	10.02a	1,828.17	0.000	0.569	0.2322	1.716(1)
2.328	0.78a	10.52a	1,828.17	0.000	0.569	0.2569	1.367(1)
2.113	0.88a	11.02a	1,828.17	0.000	0.569	0.2809	1.018(1)
1.883	0.98a	11.52a	1,828.17	0.000	0.569	0.3049	0.669(1)
1.638	1.08a	12.02a	1,828.17	0.000	0.569	0.3289	0.320(1)
1.378	1.18a	12.52a	1,828.17	0.000	0.569	0.3529	-0.029(1)
1.103	1.28a	13.02a	1,828.17	0.000	0.569	0.3769	-0.379(1)

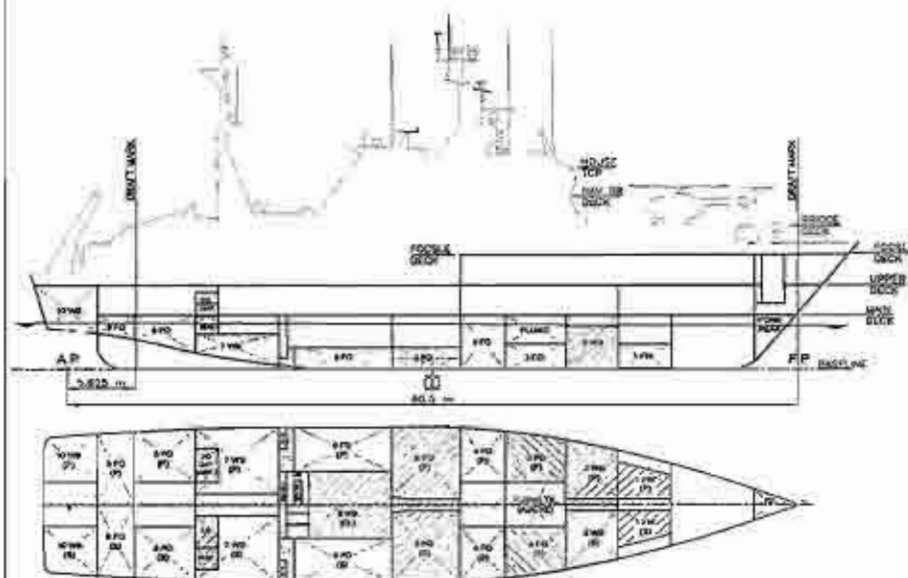
Distance in METERS -----Specific Gravity = 1.025 -----Area in m. Rad.

Distances in METERS. Specific Gravity = 1.025 Area in m.-Rad.

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 170.5 m.-MT was applied to artificially modify the CG.

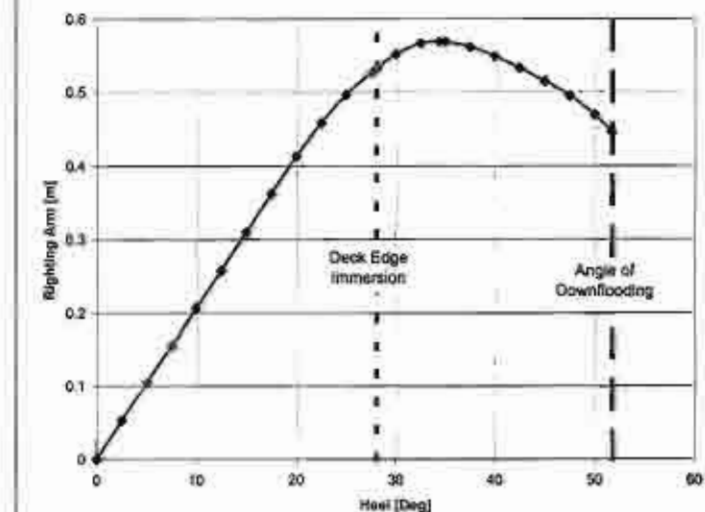
Critical Point	LCG	TCG	VCG
(1) CAPTAIN'S ROOM WINDOW FLOOD	7.635a	7.000	11.300

No.6 Full Load Arrival



Note: Aft crane stowed with boom positioned forward.

No.6 Full Load Arrival



STAS & INTACT STABILITY CRITERIA		Min/Max	Attained
(1) Area from 0 deg to 40 or Flood	>	0.0900 m.-Rad	0.2564 P
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.1582 P
(3) Absolute Angle at Flood	>	0.00 deg	51.75 P
(4) Righting Arm at 30 deg	>	0.200 m.	0.552 P
(5) GM at Equilibrium	>	0.150 m.	1.207 P
(6) Angle from 0 deg to MaxRA	>	25.00 deg	34.28 P

Relative angles measured from 0.015

01/30/09 09:25:39 STX Canada Marine, Inc.
GMS 11.50 COGS JOHN P. Tully
NO.7 BOY DEPARTURE CONDITION - ROPOS ON FORESIDE DECK

HEIGHT and DISPLACEMENT STATUS

Trim: Aft 0.085/54.875, Heel: Port 0.23 deg.

[illegible]

FRIENDSHIP STATUS

Trim: Aft 0.385/54.875, Heel: Port 0.23 deg.

Least freeboard is 3.059 m. located at 32.130%

least extra freeboard (to margin line) is 2.993 m, located at 32.130a

01/30/09 08:26:08 STX Canada Marine, Inc.
GHS 11.50 COGS JOHN P. Tully
NO.7 ROV DEPARTURE CONDITION - ROPOS ON EOCSE DECK

HYDROSTATIC PROPERTIES

Trim: Aft 0.085/54.875, Heel: Port 0.23 deg., VCG = 5.860

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Drafts Displacement Buoyancy-Ctr. Weight/ Moment/
Origin---Weight(MT)---LCB---VCB---cm---LCF---cm trim---GML---GMT
4.480 2,105.37 2.4984 2.702 7.09 5.5784 29.23 76.17 0.859
Distances in METERS, ---Specific Gravity = 1.025, ---Moment in m.-MT.
Trim is per 54.48m.

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Draft is from USK DRAFT. True Free Surface Included

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 2.994a VCG = 0.005b YCG = 5.860

Free Surface Adjustment: 0.495

Adjusted CC: LCG = 3.491e TCG = 0.003e VCG = 6.355e

Origin	Degree of Displacement		Sighting Arms		Flood Pt	
Depth	Trim	Reel	Neighr (MT)	In Trim	In Reel	Area
						Height
4.467	0.09%	0.23p	2,105.83	0.000	0.000	6.793(1)
4.462	0.09%	2.27s	2,105.36	0.000	0.038	0.0008
4.447	0.08%	4.37s	2,105.52	0.000	0.075	0.0033
4.421	0.06%	7.27s	2,105.52	0.000	0.112	0.0074
4.384	0.06%	9.77s	2,105.52	0.000	0.150	0.0131
4.336	0.00%	12.27s	2,105.52	0.000	0.188	0.0204
4.276	0.04%	14.77s	2,105.52	0.000	0.226	0.0285
4.205	0.09%	17.27s	2,105.52	0.000	0.270	0.0403
4.122	0.15%	19.77s	2,105.52	0.000	0.316	0.0521
4.025	0.21%	22.27s	2,105.52	0.000	0.362	0.0679
3.921	0.27%	24.61s	2,105.52	0.000	0.405	0.0935
3.813	0.28%	24.77s	2,105.52	0.000	0.408	0.0847
3.746	0.35%	27.27s	2,105.53	0.000	0.447	0.1033
3.648	0.40%	29.77s	2,105.53	0.000	0.469	0.1234
3.498	0.43%	32.40s	2,105.53	0.000	0.474	0.1440
3.460	0.44%	32.89s	2,105.56	0.000	0.474	0.1452
3.339	0.44%	34.77s	2,105.53	0.000	0.469	0.1646
3.189	0.43%	37.27s	2,105.64	0.000	0.435	0.1848
2.993	0.40%	39.77s	2,105.57	0.000	0.437	0.2042
2.802	0.34%	42.27s	2,105.94	0.000	0.415	0.2228
2.604	0.27%	44.77s	2,105.22	0.000	0.391	0.2404
2.403	0.19%	47.27s	2,105.01	0.000	0.356	0.2567
2.126	0.16%	48.26s	2,105.89	0.000	0.340	0.2627

Distances in METERS.----Specific Gravity = 1.025.-----Area in m. -Rad

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 1043.1 ft.-MT was applied to artificially modify the CG.

Critical Point		LCP	TCP	VCP
(1) CAPTAIN'S ROOM WINDOW	FLOOD	7.630s	7.000	11.300

143	CHLORINE, γ (pure), nitrogen	2.5000	11.0000	11.0000	11.0000
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01/30/09 09:23:38 STX Canada Marine, Inc.
GMS 11.90 EUGEN JOHN P. Tilly
NO. 1 AND OPERATING CONDITION - AOFOS ON POSSIBLE DECK

WEIGHT and DISPLACEMENT STATUS
OSX SAMP draft: 4.463 g 36.256, 4.507 g 24.63g
Time: 4/6 0.048/54.875. Goal: 3mm 2.14 sec.

Part	Weight (WT)	LCG	TGS	WCG
LIGHT SHIP	1,434.00	2,555.0	0.048	6,457
AFT STORES	5.00	22.800	1.330	6.356
FWD STORES	3.00	30.000	0.000	8.500
Sailor Stores	14.00	20.200	0.000	6.000
Sea in Jacksonville Th	0.60	20.250	6.100	11.000
40 Crew and Effects @ 120	5.00	0.200	0.000	11.000
UPPER DECK MACHINERY	17.10	19.400	0.050	8.130
UPPER DECK CONTAINER	4.35	26.100	4.600	8.400
HELICOPTER	2.50	21.000	0.000	14.300
BOPDS OPERATING - FOCSL	40.04	14.470	6.840	11.720
ROCKET EQUIPMENT	0.30	0.700	5.600	9.200
AFT CR.-MAIN ROOM-OFF	-7.24	21.400	3.290	11.160
AFT CR.-JIB ROOM-OFF.	-2.59	10.630	4.390	9.800
AFT CR.-JIB CYL-OFF	-1.31	20.900	2.290	10.600
AFT CR.-MAIN ROOM-ON	7.24	27.750	0.260	11.190
AFT CR.-JIB ROOM-ON	2.59	27.750	1.820	9.800
AFT CR.-JIB CYL-ON	1.31	27.750	2.540	10.600
Total Fixed----->	1,717.19	2,877.6	0.151	6,839

	Load	SpGr	Weight (MT)	CO	TCG	VO	FSK
TK1_WB.S	0.100	1.025	8.31	131.9921	1.5779	0.657	9.27
TK1_WB.S	0.500	1.025	14.01	144.9004	3.7179	3.502	68.44
TK1_YO.P	0.350	0.840	17.23	8.5537	3.4037	1.509	13.61
TK3_FO.S	0.950	0.840	17.32	6.3597	7.4829	1.503	12.89
TK4_FO.P	0.950	0.840	52.98	4.0935	4.1107	2.926	26.97
TK6_FO.S	0.950	0.840	52.98	4.0921	4.1588	2.836	27.27
TK6_YO.P	0.950	0.840	11.33	7.3174	4.8299	1.469	15.86
TK6_FO.S	0.950	0.840	23.33	7.3164	8.8278	2.488	16.36
TK6_YO.P	0.950	0.840	34.54	21.8974	6.9877	3.798	35.41
TK9_FO.P	0.950	0.840	33.11	26.9804	2.6659	4.073	29.50
TK2_FK.P	0.980	1.000	16.58	17.3742	1.5055	1.322	9.25
TK2_FK.S	0.980	1.000	16.58	17.3657	1.3301	1.322	8.87
FLUKE.C	0.430	1.039	79.21	9.4267	0.369	2.919	710.37
DFF_GIL.P	0.860	0.899	8.63	11.1844	0.8737	0.436	0.60
SLUDGE.S	0.223	1.002	0.77	11.0824	1.1434	0.505	5.16
SEKAUSE.S	0.100	0.890	0.48	18.6894	0.3801	0.268	0.77
RODAY.P	0.950	0.940	9.23	18.4684	1.4390	0.388	8.81

Total Tanks----->	390.85	0.302a	0.181p	2.562	874.01
Total Weight----->	2,108.03	0.164a	0.052s	5.876	

	Sample (NT)	LCB	TCB	VCS	WCHC
Sample	1-238	2.108-23	2.394	2.176	-4.470

Signing Area	0:000	0:000s
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Distances in METERS. Volume 12, No. 312

FEEDBACK STATUS

DER DRAFT crabs; 4.463 @ 30.25¢, 4.907 @ 29.63¢
Trim 6th 0.045/54.875. Hoof: 5thd 2.24 deg.

Board Freboard is 2.84 m, located at 32.130 m.

in freshwater its margin depth is 2–105 m, located

01/30/99 06:26:08 STX Canada Marine, Inc.
GHE 11:35 COGS JOHN P. Tully
NO. 8 92V OPERATING CONDITION - BOSOS ON FOIBLE DECK

HYDROSTATIC ENGINEERING

Water: 0.045/54.875, Heat: 8.24 deg., VCM = 0.876

Depth	Displacement	Buoyancy-Ctr.		Height	Moment		
Origin	Height(M)	LCB	VCB	LCF	m	ton	GM
4.467	2,108.03	2.486	2.707	7.05	5.505a	29.13	75.84
Distance in METERS		Specific Gravity = 1.025		Moment in m.-wt			3.965

Scale is from USX 2000T. Grain is per 54.85m. True Free Surface included.

EXISTING AREA: V. HPP. 0012

PLANTING AND AGRIC. V. HSE. 1962

Total CG: 305 = 2,444; TCG = 4,362; UCG = 5,876

Free Surface Adjustment: 0.062

Adjusted R²: 1.00 = 7.0448 σ^2 = 0.0046 VCE = 6.1337

Origin	Degrees of	Displacement	Righting Arms	Flood Pt			
Depth	Trim	Heel	In Trim	Area			
		Height (ft)	In Heel	Height			
0.470	0.00a	2.24a	2,108.55	0.000	0.000	0.0000	5.541(1)
0.455	0.00a	0.74a	2,108.03	0.000	0.000	0.0000	6.223(1)
0.429	0.00a	7.24a	2,108.03	0.000	0.00a	0.0033	5.896(1)
0.392	0.00c	9.74a	2,108.03	0.000	0.11a	0.0075	5.562(1)
0.314	0.04c	12.24a	2,108.03	0.000	0.153	0.0133	5.231(1)
0.284	0.06c	14.74a	2,108.03	0.000	0.19a	0.0209	4.874(1)
0.212	0.13c	17.24a	2,108.03	0.000	0.238	0.0303	4.523(1)
0.129	0.19a	19.74a	2,108.03	0.000	0.280	0.0417	4.167(1)
0.032	0.25c	22.24a	2,108.03	0.000	0.332	0.0551	3.811(1)
0.000	0.31a	24.55a	2,108.53	0.000	0.375	0.0698	3.465(1)
0.000	0.32a	24.78a	2,107.79	0.000	0.379	0.0708	3.183(1)
0.000	0.39a	27.24a	2,108.03	0.000	0.420	0.0810	2.911(1)
0.000	0.44a	29.74a	2,108.03	0.000	0.44a	0.1069	2.747(1)
0.000	0.47a	32.24a	2,108.04	0.000	0.451	0.1264	2.581(1)
0.000	0.48a	32.56a	2,108.03	0.000	0.452	0.1290	2.335(1)
0.000	0.49a	34.74a	2,107.93	0.000	0.448	0.1461	2.015(1)
0.000	0.47a	37.24a	2,108.18	0.000	0.437	0.1655	1.664(1)
0.000	0.44a	39.74a	2,108.10	0.000	0.420	0.1847	1.275(1)
0.000	0.39a	42.24a	2,107.98	0.000	0.401	0.2021	0.903(1)
0.000	0.32a	0.74a	2,107.71	0.000	0.378	0.2191	0.531(1)
0.000	0.26a	47.24a	2,107.31	0.000	0.346	0.2349	0.155(1)
0.000	0.20a	54.24a	2,108.39	0.000	0.329	0.2409	-0.001(1)

Distance in METERS -----Specific Gravity = 1.029-----Area in sq. ft.

Experiment	Method	Results
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Notes: The Salter and Panner of Gishia used for the nightingale song.

above include tank loads. However, the tank load capacity

have not attained to better with lead and zinc thanore. Barbor

A constant Top Surface Mass of 631 g m⁻² was applied

It is recommended that the following information be provided to the public in a clear and concise manner:

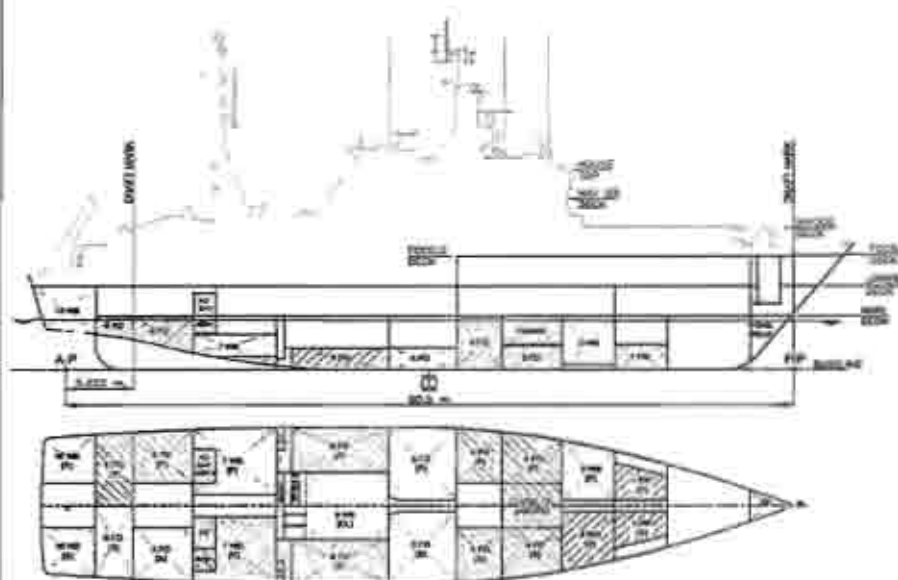
to substantially modify the CG.

DOI: 10.1002/for

CRISCOI POINTE

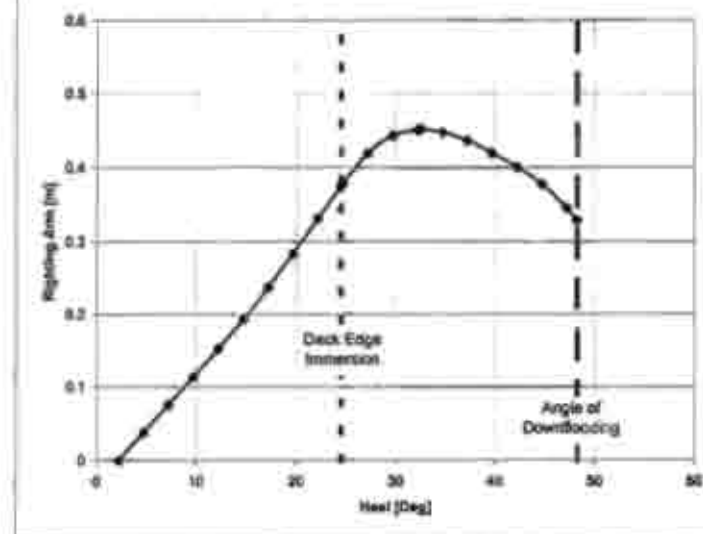
121 CAPITAL'S OPEN WINDOW	5000	7,430	7,000	11,300
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No.8 ROV Operating - ROPOS on Focale Deck



Note: Aft crane stopped with boom positioned as shown (not depicted above).

No.8 ROV Operating - ROPOS on Focale Deck

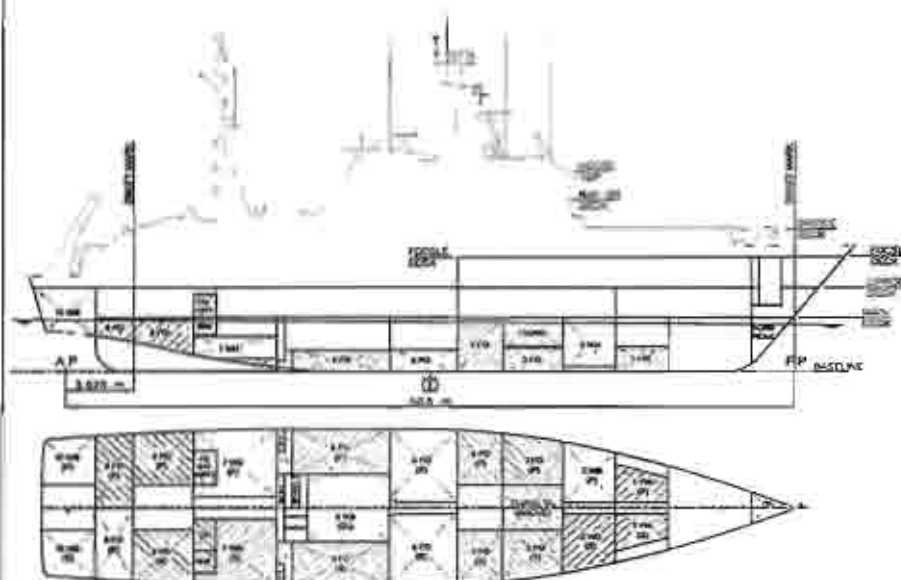


STAB 3 INTACT STABILITY CRITERIA		min/max	Attained
(1) Area from 0 deg to 40 or Flood	>	0.0900 m.-Rad	0.2321 P
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.1265 P
(3) Area from 30 deg to 40 or Flood	>	0.0300 m.-Rad	0.0756 P
(4) Righting Arm at 30 deg	>	0.200 m.	0.451 P
(5) GM at Equilibrium	>	0.150 m.	0.865 P
(6) Angle from 0 deg to MaxGA	>	25.00 deg	35.32 P

Relative angles measured from 2.579s

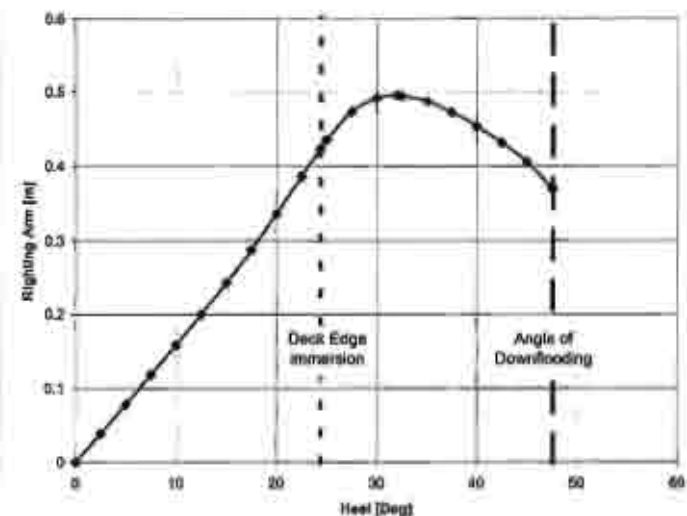
01/30/09 09:23:18		STX Canada Marine, Inc.			
GMS 11.50		COGS JOHN P. Tully			
NO. 9 NOV DEPARTURE CONDITION 2 - ROPOS ON UPPER DECK					
METRIC AND DISPLACEMENT STATUS					
DRIFT DRAFT: 4.355 @ 90.052, 4.628 @ 24.934					
Trim: Aft 0.271/34.875, Heel: Stbd 0.02 deg.					
PAGE	Weight (MT)	LCG	TCG		
LIGHT SHIP	1,624.40	2.599a	0.000a		
APR STORES	3.00	22.310a	1.130p		
PWR STORES	3.00	30.000a	0.000a		
Galley Stores	14.00	29.250a	0.000a		
Gas in Jettisonable TX	3.60	20.250a	3.100p		
40 Crew and Effects @ 120	5.00	0.000a	0.000a		
POSSIBLE DECK MACHINERY	8.50	8.320a	4.570a		
POSSIBLE DECK CONTAINER	3.84	14.350a	5.480p		
HELICOPTER	2.50	21.000a	0.000a		
ROPOS STORED - UPPER DECK	40.04	22.710a	0.360a		
ROSCYTE EQUIPMENT	0.90	0.700a	5.800a		
AFT CR. - MAIN BOOM-OFF	-7.24	22.400a	5.290a		
AFT CR. - JIB BOOM-OFF	-2.59	20.630a	5.090a		
AFT CR. - JIB CIL-OFF	-1.31	20.000a	5.290a		
AFT CR. - MAIN BOOM-ON	7.24	27.750a	0.060p		
AFT CR. - JIB BOOM-ON	2.59	27.750a	1.820p		
AFT CR. - JIB CIL-ON	1.31	27.750a	2.540p		
Total Fixed	1,708.56	2.910a	0.023a		
Dead	SpGr	LCG	TCG		
TK2_WB.S	4.100	1.025	4.32		
TK1_WB.S	0.100	0.025	14.01		
TK3_PO.P	0.950	0.840	17.32		
TK4_PO.P	0.950	0.840	17.32		
TK5_PO.P	0.950	0.840	17.32		
TK6_PO.P	0.950	0.840	17.32		
TK7_PO.P	0.950	0.840	17.32		
TK8_PO.P	0.950	0.840	17.32		
TK9_PO.P	0.950	0.840	17.32		
TK10_PO.P	0.950	0.840	17.32		
TK11_PO.P	0.950	0.840	17.32		
TK12_PO.P	0.950	0.840	17.32		
TK13_PO.P	0.950	0.840	17.32		
TK14_PO.P	0.950	0.840	17.32		
TK15_PO.P	0.950	0.840	17.32		
TK16_PO.P	0.950	0.840	17.32		
TK17_PO.P	0.950	0.840	17.32		
TK18_PO.P	0.950	0.840	17.32		
TK19_PO.P	0.950	0.840	17.32		
TK20_PO.P	0.950	0.840	17.32		
TK21_PO.P	0.950	0.840	17.32		
TK22_PO.P	0.950	0.840	17.32		
TK23_PO.P	0.950	0.840	17.32		
TK24_PO.P	0.950	0.840	17.32		
TK25_PO.P	0.950	0.840	17.32		
TK26_PO.P	0.950	0.840	17.32		
TK27_PO.P	0.950	0.840	17.32		
TK28_PO.P	0.950	0.840	17.32		
TK29_PO.P	0.950	0.840	17.32		
TK30_PO.P	0.950	0.840	17.32		
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TK40_PO.P	0.950	0.840	17.32		
TK41_PO.P	0.950	0.840	17.32		
TK42_PO.P	0.950	0.840	17.32		
TK43_PO.P	0.950	0.840	17.32		
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TK45_PO.P	0.950	0.840	17.32		
TK46_PO.P	0.950	0.840	17.32		
TK47_PO.P	0.950	0.840	17.32		
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TK231_PO.P	0.950	0.840	17.32		
TK232_PO.P	0.950	0.840	17.32		
TK233_PO.P	0.950	0.840	17.32		
TK234_PO.P	0.950	0.840	17.32		
TK235_PO.P	0.950	0.840	17.32		

No.9 ROV Departure 2 - ROPOS on Upper Deck



Note: Aft crane stowed with boom positioned athwartships (not depicted above).

No.9 ROV Departure 2 - ROPOS on Upper Deck



Item	STX 8 INTACT STABILITY CRITERIA	Min/Max	Attained
(1) Area from 0 deg to 40 or Flood	>	0.0900 m.-Rad	0.2154 F
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.1312 F
(3) Area from 30 deg to 40 or Flood	>	0.0300 m.-Rad	0.0842 F
(4) Righting Arm at 30 deg	>	0.200 m.	0.492 F
(5) GM at Equilibrium	>	0.150 m.	0.896 F
(6) Angle from 0 deg to MaxRA	>	25.00 deg	32.00 F
Qualitative angles measured from 0.020			

Relative angles measured from 0.020

01/30/09 08:25:19 STX Canada Marine, Inc.
CGS JOHN F. Tully
NO.10 ROV OPERATING CONDITION 2 - ROPOS ON UPPER DECK

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 4.365 @ 30.25t, 4.618 @ 24.83t
Trim: Aft 0.252/54.875, Heel: Stbd 3.52 deg.

Part	Weight (MT)	LCG	TCG	Weight/	LCG	TCG	Weight/
LIGHT SHIP	1,634.60	2.525a	0.048s	8.497			
APF STORES	5.00	22.350a	1.330p	6.554			
PWD STORES	3.00	30.000a	0.000	3.500			
Galley Stores	14.00	20.250a	0.000	6.800			
Gas in Jettisonable Tr	0.62	20.250a	6.100p	11.000			
40 Crew and Effects @ 125	5.00	0.000	0.000	11.000			
POSSIBLE DECK MACHINERY	8.98	8.320a	5.670p	12.000			
POSSIBLE DECK CONTAINER	3.86	14.320a	5.480p	11.300			
HELICOPTER	2.50	21.000a	0.000	16.300			
ROPOS OPERATING - UPPER D	40.04	21.520a	3.380a	9.000			
ROSETTE EQUIPMENT	0.90	0.700a	5.600a	9.000			
AFT CR.-MAIN BOOM-OFF	-7.24	22.400a	5.290a	11.160			
AFT CR.-JIB BOOM-OFF	-2.55	20.630a	5.280a	9.800			
AFT CR.-JIB CYL-OFF	-1.31	22.000a	5.290a	10.800			
AFT CR.-MAIN BOOM-ON	7.34	27.750a	5.060p	11.160			
AFT CR.-JIB BOOM-ON	2.59	27.750a	1.820p	9.800			
AFT CR.-JIB CYL-ON	1.31	27.750a	2.540p	10.800			
Total Fixed	2,708.56	2.912a	0.094s	8.580			
Load	SpGr	Weight (MT)	LCG	TCG	Weight/	LCG	TCG
TK2_WB.S	0.950	0.840	8.31	13.077a	1.604a	0.658	9.94
TK1_WB.S	0.950	0.840	16.01	14.880a	2.408a	1.507	13.36
TK3_PO.S	0.950	0.840	17.32	8.353a	3.355a	1.903	1.10
TK4_PO.S	0.950	0.840	17.32	8.353a	2.494a	1.503	0.92
TK5_PO.S	0.950	0.840	52.98	4.092a	4.107p	2.828	26.98
TK6_PO.S	0.950	0.840	52.98	4.090a	4.163a	2.824	27.45
TK7_PO.S	0.950	0.840	23.39	7.321a	4.513p	1.444	8.11
TK8_PO.S	0.950	0.840	23.39	7.329a	4.638a	1.444	8.45
TK9_PO.S	0.950	0.840	36.56	21.801a	4.050p	3.799	20.31
TK10_PO.S	0.950	0.840	36.56	21.898a	4.160a	3.799	20.97
TK11_PO.S	0.950	0.840	23.12	26.080a	2.649p	4.074	13.74
TK12_PO.S	0.950	0.840	16.56	17.379a	1.501p	1.322	1.79
TK13_PO.S	0.950	0.840	16.56	17.367a	1.534a	1.322	1.51
FLONE.C	0.480	1.022	75.21	3.420a	0.581a	2.324	713.03
CPP_OIL.F	0.300	0.890	0.62	11.185a	0.853p	0.437	0.50
SLUDGE.S	0.223	1.000	0.77	11.082a	1.378a	0.407	1.27
SEWAGE.S	0.100	0.890	0.49	18.695a	5.395a	2.389	0.77
FOGAY.F	0.450	0.840	9.28	15.489a	1.477p	5.894	3.92
Total Tanks			427.42	2.208a	0.054a	2.871	944.02
Total Weight			2,135.98	2.771a	0.087a	5.798	
Displ (MT)			2,135.97	2.786a	0.279a	2.737	-0.002
Righting Arms			0.021	0.000a			
Distances in METERS							

FREEDBOARD STATUS

USK DRAFT draft: 4.365 @ 30.25t, 4.618 @ 24.83t
Trim: Aft 0.252/54.875, Heel: Stbd 3.52 deg.
Least freeboard @ 2.547 m. located at 33.130a
Least extra freeboard (to margin line) @ 2.473 m. located at 33.130a

01/30/09 08:25:19 STX Canada Marine, Inc.
CGS JOHN F. Tully
NO.10 ROV OPERATING CONDITION 2 - ROPOS ON UPPER DECK

HYDROSTATIC PROPERTIES

Trim: Aft 0.252/54.875, Heel: Stbd 3.52 deg., VCG = 5.798

Displacement	Weight/	LCG	TCG	Weight/	LCG	TCG	Weight/
Displ (MT)	2,135.97	2.786a	0.279a	2.737	5.594a	25.18	74.97
Distances in METERS							
Specific Gravity							
Trim is per							
Draft is from USK DRAFT							
True Free Surface Included							

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 2.771a, TCG = 0.087a, VCG = 5.798
Free Surface Adjustment: 0.462
Adjusted CG: LCG = 2.773a, TCG = 0.099a, VCG = 6.264

Displacement	Weight/	LCG	TCG	Weight/	LCG	TCG	Weight/
Displ (MT)	2,135.97	2.786a	0.279a	2.737	5.594a	25.18	74.97
Distances in METERS							
Specific Gravity							
Trim is per							
Draft is from USK DRAFT							
True Free Surface Included							

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 944.0 m.-MT was applied to artificially modify the CG.

Critical Point: LCG = 2.771a, TCG = 0.087a, VCG = 5.798
CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.500 11.300

01/30/09 08:28:58 STX Canada Marine, Inc.
 GRS 11.50 CCGS JOHN P. Tully
 NO.11 WORST OPERATING CONDITION - AFT CRANE, ROSETTE AND ROPS IN OPERATION
 ALL CRANES OPERATING AT MAXIMUM DISTANCE OVER STARGOARD SIDE AND VOLUME OPERATIONAL
 BALLAST IS REQUIRED TO COMPENSATE

WEIGHT AND DISPLACEMENT STATUS
 USK DRAFT draft: 1.332 @ 30.155, 4.418 @ 24.63a
 Trim: Aft 0.034/54.875, Heel: Sbd 5.29 deg.

Part	Weight (MT)	LCG	TCG	VCG			
SHIP SHIP	1,024.00	2.595a	0.048a	6.457			
AFT STORES	5.00	22.350a	1.330p	6.554			
FWD STORES	3.00	30.300a	0.000	8.500			
Galley Stores	14.00	20.350a	0.000	6.700			
Gas in Jettisonable Tank	0.63	20.200a	4.100p	11.000			
Oil Cans and Effects @ 120	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490a	0.059a	8.130			
UPPER DECK CONTAINER	4.55	24.100a	0.450p	8.800			
HELICOPTER	2.50	21.000a	0.000	14.300			
ROPS OPERATING - FOCALS	40.04	14.970a	8.840a	11.720			
ROSETTE OPERATING	3.50	8.170a	14.460a	11.800			
AFT CR.-MAIN BOOM-OFF	-7.24	22.400a	3.290a	11.160			
AFT CR.-JIB BOOM-OFF	-2.59	20.430a	3.290a	9.800			
AFT CR.-JIB CYL-OFF	-1.31	20.000a	3.290a	56.800			
AFT CR.-MAIN BOOM-ON	7.24	27.700a	11.180a	10.450			
AFT CR.-JIB BOOM-ON	2.59	27.750a	10.170a	9.200			
AFT CR.-JIB CYL-ON	1.31	27.700a	13.900a	10.450			
ST HEIGHT EXTENDED	8.00	29.740a	21.340a	7.760			
Total Fixed----->	1,725.78	3.013a	0.340a	8.433			
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSM
TAKI_W.F	1.000	1.025	63.07	13.381a	2.301p	2.917	0.00
TAKI_W.F	1.000	1.025	53.36	15.812a	2.351p	2.204	0.00
TAKI_W.F	0.850	0.840	17.32	9.301a	3.384p	1.504	3.84
TAKI_W.F	0.850	0.840	17.32	9.337a	3.503a	1.504	3.70
TAKI_W.F	0.500	0.840	12.17	20.326a	2.010p	3.768	41.78
TAKI_W.F	0.500	0.840	12.17	20.307a	2.760a	3.711	38.28
TAKI_W.F	0.500	1.000	8.45	17.307a	1.380p	0.841	3.86
TAKI_W.F	0.500	1.000	8.45	17.349a	1.307a	0.841	4.37
FLARE C	0.480	1.025	15.22	0.426a	0.874a	2.940	718.31
CPD OIL F	0.500	1.880	0.43	14.188a	0.850p	0.658	0.53
FLARE S	0.500	1.880	3.70	11.133a	1.807a	0.579	1.80
REMARKS	0.500	0.890	0.43	18.843a	1.329a	3.624	0.78
FOCALY P	0.500	0.847	4.29	10.488a	2.430a	1.428	7.53
TAKI_W.F	0.200	1.025	13.81	29.497a	3.043p	4.408	24.13
Total Tanks----->			310.96	0.618a	1.130p	2.488	481.81
Total Weight----->			2,036.75	2.423a	0.113a	8.034	
	Displacement		LCG	TCG	VCG	Heel	
HEEL	1.025	2,036.75	2.423a	0.429a	2.847	+4.343	

Aligning Arms 0.501 0.050a
 Distances in METERS ----- Moments in a.-MT.

FREEMAN STATUS
 USK DRAFT draft: 1.323 @ 30.350, 4.418 @ 24.63a
 Trim: Aft 0.094/54.875, Heel: Sbd 5.29 deg.
 Least freeboard is 2.355 m. located at 72.170a
 Least extra freeboard (no margin line) is 2.879 m. located at 72.170a

01/30/09 04:26:08 STX Canada Marine, Inc.
 GRS 11.50 CCGS JOHN P. Tully
 NO.11 WORST OPERATING CONDITION - AFT CRANE, ROSETTE AND ROPS IN OPERATION

HYDROSTATIC PROPERTIES
 Trim: Aft 1.284/54.875, Heel: Sbd 5.29 deg., VCG = 1.235

Draft Displacement Buoyancy-Ctr. Height/ Moment/
 Origin--Weight(MT)--LCG--VCG--TCG--on trim--GML--GMT
 4.376 2,036.75 2.423a 2.663 7.00 3.330a 28.24 74.08 0.788
 Distances in METERS ----- Specific Gravity = 1.025 ----- Moment in a.-MT.
 Trim is per 54.875m.
 Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs. HEEL ANGLES
 Total CG: LCG = 1.429a TCG = 0.113a VCG = 8.034
 Free Surface Adjustment: 0.423
 Adjusted CG: LCG = 1.429a TCG = 0.074a VCG = 8.457

Origin	Depth	Trim	Heel	Displacement	Righting Arms	Flood Tg		
				Weight (WT)	In Trim	In Heel	Area	Height
	0.346	0.10a	5.29a	2,037.13	0.360	1.000	0.000	6.230(1)
	0.315	0.00a	7.70a	2,034.76	0.000	0.035	0.000	0.000(1)
	0.378	0.44a	10.39a	2,034.76	0.660	0.570	0.000	0.000(1)
	0.226	0.00	12.73a	2,034.76	0.000	0.196	0.000	0.000(1)
	0.244	0.05a	15.29a	2,034.76	0.000	0.144	0.012a	0.000(1)
	0.092	0.10a	17.70a	2,034.76	0.000	0.183	0.019a	0.000(1)
	0.006	0.17a	20.00a	2,034.76	0.000	0.228	0.028a	0.000(1)
	0.927	0.24a	22.79a	2,034.76	0.000	0.270	0.029a	0.000(1)
	0.793	0.31a	25.28a	2,034.76	0.000	0.309	0.030a	0.000(1)
	0.787	0.32a	25.40a	2,034.76	0.000	0.311	0.032a	0.000(1)
	0.461	0.38a	27.70a	2,034.76	0.000	0.342	0.033a	0.000(1)
	0.319	0.48a	30.10a	2,034.76	0.000	0.340	0.034a	0.000(1)
	0.430	0.49a	32.07a	2,034.76	0.000	0.343	0.034a	0.000(1)
	0.346	0.50a	32.79a	2,034.76	0.000	0.343	0.034a	0.000(1)
	0.200	0.52a	35.29a	2,034.76	0.000	0.344	0.034a	0.000(1)
	0.027	0.52a	37.78a	2,034.76	0.000	0.339	0.034a	0.000(1)
	0.043	0.49a	40.29a	2,034.76	0.000	0.319	0.034a	0.000(1)
	0.401	0.45a	42.78a	2,034.76	0.000	0.297	0.034a	0.000(1)
	0.450	0.39a	45.29a	2,034.76	0.000	0.272	0.034a	0.000(1)
	0.245	0.32a	47.78a	2,034.76	0.000	0.238	0.034a	0.000(1)
	0.133	0.28a	49.10a	2,034.76	0.000	0.215	0.034a	0.000(1)

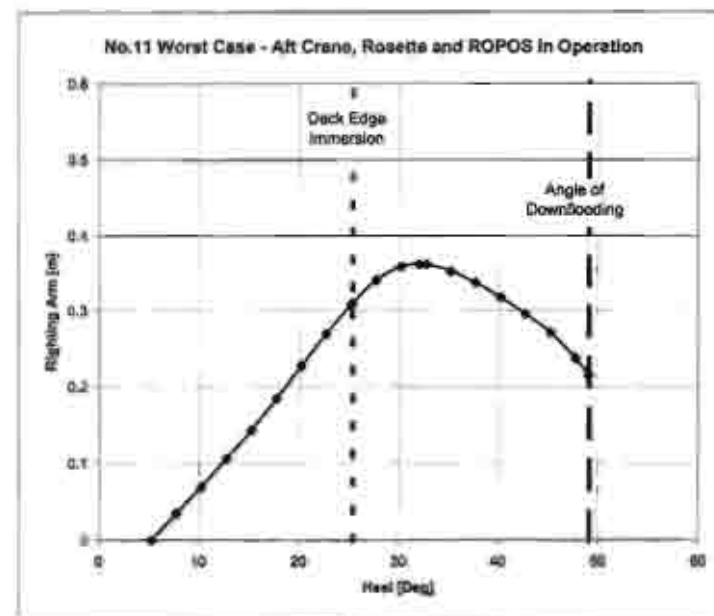
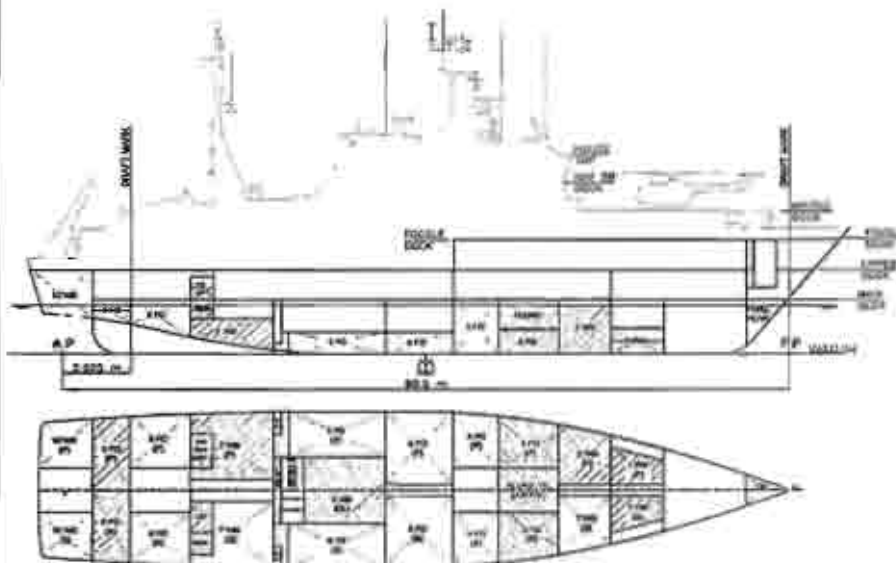
Distances in MILES. Specific Gravity = 1.025. Area in a-Sq.

Distances in METERS ----- Specific Gravity = 1.025 ----- Area in a.-sqd.

Note: The Height 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 881.8 a.-MT was applied to artificially modify the CG.

Critical Point-----LCG-----TCG-----VCG
 (1) CAPTAIN'S ROOM WINDOW FLOOD 7.430a 7.000 11.300

No.11 Worst Case - Aft Crane, Rosette and ROPOS in Operation
 ALL CRANES OPERATING AT MAXIMUM DISTANCE OVER STARBOARD SIDE AND FULLY OPERATIONAL
 BALLAST IS REQUIRED TO COMPENSATE



STAB 6 INTACT STABILITY CRITERIA		Min/Max	Estimated
(1) Area from 0 deg to 40 or Flood	>	0.0900 m.-Rad	0.1485 P
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.1131 P
(3) Area from 30 deg to 40 or Flood	>	0.0200 m.-Rad	0.0554 P
(4) Righting Arm at 30 deg	>	0.200 m.	0.354 P
(5) Glt at Equilibrium	>	0.130 m.	0.798 P
(6) Angle from 0 deg to MaxRA	>	23.00 deg	38.78 P

Relative angles measured from 5.281°

Note: Ballast required to compensate for cranes operating on starboard side.

01/20/09 19:22:57		STX Canada Marine, Inc.	
GHS 11.50		CCOS JOHN P. Tully	
NO.12 ICED BALLAST DEPARTURE CONDITION			
WEIGHT and DISPLACEMENT STATUS			
USK DRAFT draft: 4.430 @ 30.25f, 4.540 @ 24.63a			
Trim: Aft 0.110/54.875, Heel: Port 0.10 deg.			
Fact-----	Weight (MT)	LCG	CGC
LIGHT SHIP	2,424.90	2.595a	0.048a
AFT STORES	5.86	22.300a	1.330p
FW STORES	1.06	30.000f	0.000
Galley Stores	14.80	20.250f	0.000
Gas in Jettisonable Tr	0.62	30.250a	6.320p
40 Crew and Effects @ 125	5.00	0.000	0.000
ICC ACCRETION	93.30	3.500a	0.000
Total Fixed----->	1,745.42	2.460a	0.030a
Load	SpGr	Height (MT)	CGC
TK2, SB, F	0.250	1.025	20.77
TK4, FO, F	0.980	0.840	54.65
TK4, FO, S	0.980	0.840	54.65
TK8, FO, F	0.950	0.840	34.56
TK8, FO, S	0.950	0.840	34.56
TK9, FO, F	0.950	0.840	23.11
TK9, FO, S	0.950	0.840	23.11
TK1, FW, F	0.980	1.000	16.56
TK1, FW, S	0.980	1.000	16.56
FWDR, C	0.480	1.025	79.21
UFF, OIL, F	0.560	0.890	6.62
SLUDGE, S	0.223	1.000	0.77
SEWAGE, S	0.100	0.890	0.49
POOXY, F	0.950	0.840	9.18
Total Tanks----->	968.90	2.520a	0.192p
Total Weight----->	2,114.38	2.540a	0.002p
HULL	1.025	2,114.38	2.540a
DISPLACEMENT EXCESS: 0.01			
Distances in METERS, -----Moments in m.-MT.			
FREEBOARD STATUS			
USK DRAFT draft: 4.430 @ 30.25f, 4.540 @ 24.63a			
Trim: Aft 0.110/54.875, Heel: Port 0.10 deg.			
Least freeboard is 3.081 m. located at 32.130a			
Least extra freeboard (to margin line) is 2.965 m. located at 32.130a			
HYDROSTATIC PROPERTIES			
Trim: Aft 2.110/54.875, Heel: Port 0.10 deg., VCG = 0.088			
Bottle Displacement	Buoyancy-Ctr.	Weight/	Moment/
Origin--Weight (MT)	LCB	VCG	LCF
4.491	2,114.38	2.540a	7.10
Distances in METERS, -----Specific Gravity = 1.025, -----Moment in m.-MT.			
Trim is per 34.88m.			
Draft is from USK DRAFT.			
True Free Surface included.			

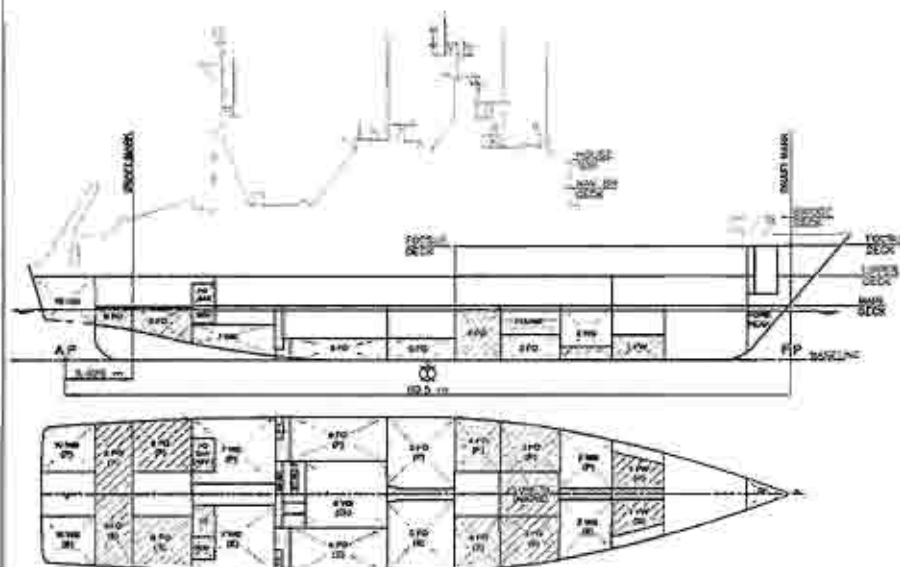
01/20/09 19:22:57		STX Canada Marine, Inc.	
GHS 11.50		CCOS JOHN P. Tully	
		NO.12 ICED BALLAST DEPARTURE CONDITION	

		RIGHTING ARMS vs. REEL SHOTS	
Total CG: LCB = 2.540a		TCG = 0.001p	
Adjusted CG: LCB = 2.540a		TCG = 0.001p	
		Free Surface Adjustment: 0.468	
		VCG = 0.558	
Origin	Degree of	Displacement	Righting Arms
Depth	Trim	Reel	Height (MT)
4.476	0.11a	0.10p	2,114.20
4.472	0.11a	2.40a	2,114.21
4.456	0.10a	4.90a	2,114.35
4.428	0.08a	7.40a	2,114.38
4.392	0.06a	9.90a	2,114.38
4.343	0.03a	12.40a	2,114.38
4.283	0.01a	14.90a	2,114.38
4.211	0.00a	17.40a	2,114.38
4.127	0.12a	19.90a	2,114.38
4.030	0.18a	22.40a	2,114.37
3.926	0.24a	24.90a	2,114.36
3.817	0.25a	26.90a	2,113.87
3.700	0.32a	27.40a	2,114.38
3.581	0.37a	29.90a	2,114.25
3.451	0.38a	30.50a	2,114.38
3.301	0.40a	32.40a	2,113.87
3.143	0.40a	34.90a	2,114.47
3.173	0.39a	37.40a	2,114.30
2.994	0.35a	39.90a	2,114.43
2.808	0.29a	42.40a	2,114.02
2.608	0.22a	44.90a	2,114.05
2.407	0.14a	47.40a	2,113.84
2.352	0.12a	48.10a	2,114.80
Distances in METERS, -----Specific Gravity = 1.025, -----Area in m.-Rad.			

Note: The Weight and Center of Gravity used for the righting arms above include tank losses. However, the tank loss centers were NOT ALLOWED TO SHIFT with heel and trim changes. Rather, a constant Free Surface Moment of 985.5 m.-MT was applied to artificially modify the CG.

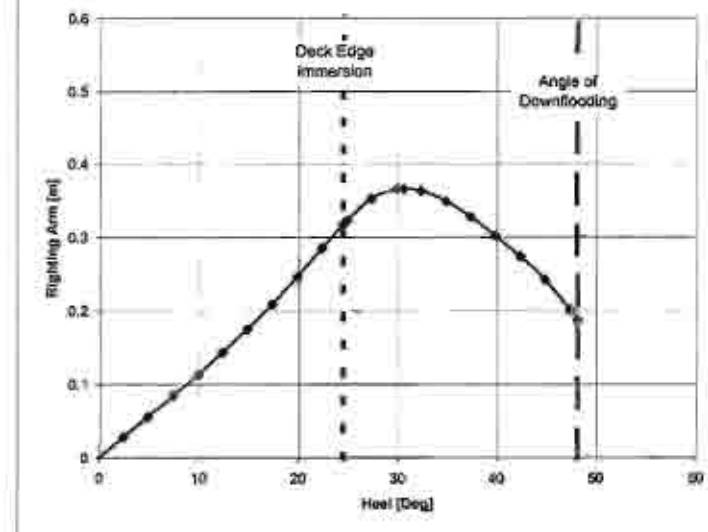
Critical Point	LCF	TCF	VCG
(1) CAPTAIN'S ROOM WINDOW	FLOOR	7.630a	7.000

No.12 Ballast Departure with Ice



Note: All crane stowed with boom positioned forward.

No.12 Ballast Departure with Ice



STAB 7 INTACT STABILITY CRITERIA		Min/Max	Attained
(1) Area from 0 deg to 40 or Flood	>	0.0900 m.-Rad	0.1567 P
(2) Area from 0 deg to 30	>	0.0550 m.-Rad	0.0965 P
(3) Area from 30 deg to 40 or Flood	>	0.0380 m.-Rad	0.0602 P
(4) Righting Arm at 30 deg	>	0.200 m.	0.367 P
(5) GM at Equilibrium	>	0.150 m.	0.654 P
(6) Angle from 0 deg to MaxRA	>	25.00 deg	30.67 P

Relative angles measured from 0.096

01/30/09 09:19:39		STX Canada Marine, Inc.					
OHS 11.50		COGS JOHN P. Tully					
NO.13 ICEB BALLAST ARRIVAL CONDITION							
WEIGHT and DISPLACEMENT STATUS							
USK DRAFT draft: 4.152 @ 30.25t, 4.212 @ 24.63t							
Trim: Aft 0.068/34.875, Heel: Stbd 0.07 deg.							
Part	Weight (MT)		LCB	VCB	TRC		
LIGHT SHIP	1,404.80	2.095a	0.249a	0.457			
APT STORES	5.00	12.390a	1.310p	6.556			
TRC STORES	3.00	30.302a	0.300	8.900			
Galley Stores	7.00	10.350a	0.000	6.500			
Sat in Jettableable Tr	0.69	20.250a	0.100p	11.000			
40 Dwn and Effects @ 125	3.00	0.000	0.000	11.000			
ICE ACCRETION	23.20	2.500a	0.000	10.300			
Total Fixed	1,778.48	2.552a	0.559a	6.733			
Lead	SpG	Weight (MT)	LCB	VCB	TRC		
TRC_WB.F	0.600	1.025	49.84	13.363a	2.163p	2.070	41.52
TRC_WB.B	0.500	1.025	41.53	13.078a	2.137a	1.839	38.75
TRC_WB.C	1.000	1.025	42.22	6.761a	0.000	0.306	0.00
TRC_WB.F	0.100	1.000	1.69	17.374a	0.974p	0.277	0.74
TRC_WB.S	0.100	1.000	1.69	17.374a	0.974p	0.277	0.74
CPA_OIL.F	0.500	0.890	0.62	11.184a	0.804p	0.423	0.50
SLUDGE.S	0.223	1.000	0.77	11.382a	1.291a	0.404	0.52
SEWAGE.S	0.900	0.890	4.37	18.688a	1.300a	1.865	6.77
FOODW.F	0.900	0.840	4.69	18.688a	1.493p	5.425	1.44
TRC_WB.F	0.500	1.025	11.80	29.685a	2.703p	4.399	25.85
Total Tanks			140.42	2.230a	0.401p	1.954	116.24
Total Weight			1,899.90	2.140a	0.301a	0.327	
NULL	1.025	1,899.90	2.140a	0.301a	0.327a	-0.174	
DISPLACEMENT EXCESS:		0.00					
Distances in METERS				Moments in a.-MT			
FREESBOARD STATUS							
USK DRAFT draft: 4.152 @ 30.25t, 4.212 @ 24.63t							
Trim: Aft 0.068/34.875, Heel: Stbd 0.07 deg.							
Least freesboard is 3.358 m. located at 22.130a							
Least extra freesboard (to margin line) is 3.313 m. located at 24.130a							
HYDROSTATIC PROPERTIES							
Trim: Aft 0.068/34.875, Heel: Stbd 0.07 deg., VCB = 0.327							
Draft	Displacement	buoyancy-Cor.	Weight/	Percent/			
Origin	Weight (MT)	LCB	VCB	LCB	trim	GC	Dist
4.100	1,899.90	2.140a	2.52a	6.93	5.400a	27.55	75.47
Distances in METERS		Specific Gravity = 1.025		Moment in a.-MT			
		Trim is per 54.84m					
Draft is from USK DRAFT		Trim Free Surface included					

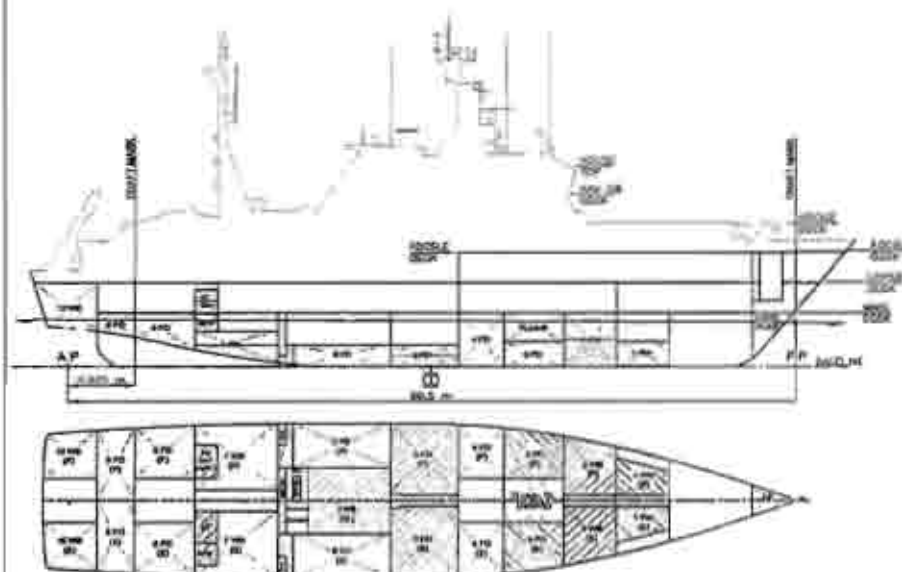
01/30/09 09:28:39
OHS 11.50
STX Canada Marine, Inc.
COGS JOHN P. Tully
NO.13 ICEB BALLAST ARRIVAL CONDITION

RIGHTING ARM vs HEEL ANGLE									
Total CG: LCG = 2.140a VCG = 0.001a VCB = 0.327									
Free Surface Adjustment: 0.047									
Adjusted CG: LCG = 2.140a TCG = 0.001a VCG = 0.329									
Origin	Degree of Displacement	Righting Arm	Flood Pt.						
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Height		
4.176	0.07a	0.07a	1,899.90	0.000	0.000	0.0000	7.104(1)		
4.176	0.06a	0.07a	1,899.90	0.000	0.041	0.0009	4.794(1)		
4.154	0.04a	0.07a	1,899.90	0.000	0.082	0.0026	4.478(1)		
4.127	0.01a	0.07a	1,899.90	0.000	0.122	0.0081	4.151(1)		
4.099	0.04a	10.07a	1,899.90	0.000	0.183	0.0142	3.817(1)		
4.041	0.09a	12.07a	1,899.90	0.000	0.204	0.0223	3.478(1)		
3.981	0.13a	15.07a	1,899.90	0.000	0.246	0.0321	3.159(1)		
3.911	0.22a	17.07a	1,899.90	0.000	0.290	0.0439	2.773(1)		
3.827	0.29a	20.07a	1,899.90	0.000	0.334	0.0574	2.423(1)		
3.729	0.37a	22.07a	1,899.90	0.000	0.374	0.0729	2.067(1)		
3.626	0.46a	25.07a	1,899.90	0.000	0.409	0.0899	1.714(1)		
3.517	0.53a	26.99a	1,899.90	0.000	0.431	0.1039	Heavy Imb.		
3.405	0.60a	27.07a	1,899.90	0.000	0.437	0.1064	3.364(1)		
3.328	0.66a	30.07a	1,899.90	0.000	0.458	0.1279	3.018(1)		
3.176	0.71a	32.07a	1,899.90	0.000	0.467	0.1481	2.669(1)		
3.197	0.73a	32.07a	1,899.90	0.000	0.468	0.1534	2.579(1)		
3.311	0.77a	33.07a	1,899.90	0.000	0.445	0.1683	2.316(1)		
3.633	0.80a	37.07a	1,899.90	0.000	0.464	0.1986	1.960(1)		
2.466	0.80a	40.07a	1,899.90	0.000	0.628	0.2080	1.691(1)		
2.450	0.79a	42.07a	1,899.90	0.000	0.618	0.2267	1.440(1)		
2.246	0.76a	43.07a	1,899.90	0.000	0.397	0.2445	0.978(1)		
2.324	0.76a	47.07a	1,899.90	0.000	0.232	0.2613	0.210(1)		
2.605	0.64a	50.07a	1,899.90	0.000	0.237	0.2749	0.146(1)		
1.738	0.62a	51.07a	1,899.90	0.000	0.320	0.2923	-0.000(1)		
Distances in METERS Specific Gravity = 1.025 Area in a.-Rad.									

Note: The Weight and Center of Gravity used for the righting arm 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 118.3 a.-MT was applied to artificially modify the CG.

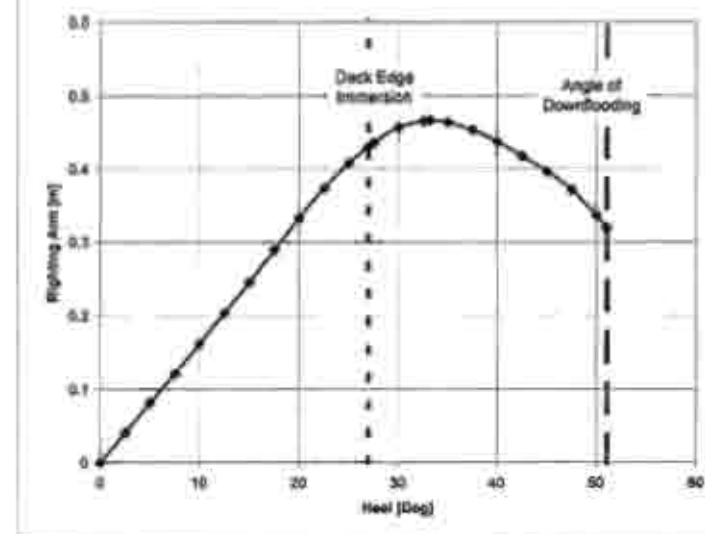
Critical Point: LCB = 2.140a; TCB = 0.301a; VCB = 0.327
7) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 1.000 11.300

No.13 Ballast Arrival with Ice



Note: Aft stern stacked with boom positioned forward.

No.13 Ballast Arrival with Ice



STAB ? INTACT STABILITY CRITERIA		Min/Max	Attained
(1) Area from 2 deg to 40 or Flood	>	0.0900 m.-Rad	0.2080 P
(2) Area from 0 deg to 10	>	0.0550 m.-Rad	0.1278 P
(3) Area from 10 deg to 40 or Flood	>	0.0300 m.-Rad	0.0801 P
(4) Righting Arm at 30 deg	>	0.200 m.	0.458 P
(5) GM vs Equilibrium	>	0.150 m.	0.942 P
(6) Angle from 0 deg to MaxRA	>	25.00 deg	33.15 P

-----Relative angles measured from 3.07s

01/20/03 14:22:37
GMS 11.53

STX Canada Marine, Inc.
COGS JOHN F. Tully
NO.14 1000 LOAD LINE DEPARTURE CONDITION

WEIGHT AND DISPLACEMENT STATUS
USN DRAFT (Hull): 4.148 @ 30.231, 4.544 @ 24.614
Trim: Aft 0.043/94.87%, Heel: Stbd 0.45 deg.

Part	Weight (MT)	LCG	TCG	VOG			
LIGHT SHIP	1,624.00	2.595a	0.448a	4.457			
ART STORES	5.00	22.350a	1.330p	6.554			
FRD STORES	3.00	30.000a	0.400	8.500			
Galley Stores	14.00	28.750a	0.400	6.000			
Sec in Jettisonable Tx	0.68	22.350a	0.100p	11.000			
40 Cans and Effects @ 125	5.00	0.000	0.000	11.000			
ICE ACCRETION	83.25	2.500a	0.000	11.300			
UPPER DECK MACHINERY	17.12	19.450a	0.050a	8.130			
UPPER DECK CONTAINER	4.33	26.100a	0.450p	9.400			
PODSIDE DECK MACHINERY	8.99	8.320a	0.470a	11.000			
PODSIDE DECK CONTAINER	3.88	14.350a	0.480a	11.300			
HELICOPTER	2.02	21.000a	0.000	14.300			
ROCKET EQUIPMENT	3.90	0.700a	0.600a	9.000			
Total Fixed----->	1,783.17	2.703a	0.465a	8.797			
	Load	Spdr	Weight (MT)	LCG	TCG	VOG	PER
TEST WL.F	0.500	1.025	24.48	19.273a	2.823p	1.733	88.18
WKA FO.F	0.950	0.840	52.98	4.082a	0.134p	2.820	27.08
WKA FO.S	0.550	0.840	52.98	4.082a	0.134a	2.820	27.08
TKG FO.F	0.800	0.840	19.89	7.300a	0.434p	1.383	31.58
TKG FO.S	0.800	0.840	19.89	7.300a	0.434a	1.383	31.58
TKS FO.F	0.950	0.840	23.11	24.048a	2.729p	0.073	87.19
TKS FO.S	0.950	0.840	23.11	24.048a	2.729a	0.073	87.19
TKL FO.F	0.980	1.000	18.24	17.394a	1.913p	1.323	6.81
TKL FO.S	0.980	1.000	18.24	17.394a	1.913a	1.323	6.81
FLWRK.C	0.480	1.025	74.21	8.420a	0.074a	0.909	728.82
OFF.GIL.F	0.500	0.890	0.62	11.155a	0.939p	0.439	0.50
SPRNG.S	0.223	1.000	0.77	11.001a	1.209a	0.404	0.94
SPRNG.S	0.100	0.890	0.49	12.465a	0.912a	0.283	0.73
PODAY.F	0.950	0.840	9.28	18.888a	1.497p	0.899	1.69
Total Tanks----->			837.74	1.801a	0.290p	2.440	1945.89
Total Weight----->			2,120.91	2.487a	0.000a	4.138	
			Weight (MT)	LCG	TCG	VOG	PER
HULL	1.025		2,120.90	2.485a	0.000a	2.715	-4.400

WEIGHT EXCESS: 0.00

Distances in METERS.-----Moments in m.-MT.

FREEBOARD STATUS

USN DRAFT (Hull): 4.148 @ 30.231, 4.544 @ 24.614
Trim: Aft 0.043/94.87%, Heel: Stbd 0.45 deg.

Least freeboard is 3.031 m. located at 33.170a

Least extra freeboard (to margin line) is 2.855 m. located at 33.170a

HYDROSTATIC PROPERTIES

Trim: Aft 0.043/94.87%, Heel: Stbd 0.45 deg., VOG = 4.138

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GMS 11.50

STX Canada Marine, Inc.
COGS JOHN F. Tully
NO.14 1000 LOAD LINE DEPARTURE CONDITION

Weight Displacement Buoyancy VCG, Weight/ Moment/

Origin	Weight (MT)	LCG	TCG	VOG	to Trip	GMC	GOT	
0.004	2,120.90	2.492a	2.715	7.10	5.563a	29.20	79.80	0.572

Distances in METERS.-----Specific Gravity = 1.025.-----Moment in m.-MT.
Trim is per 54.88m.

Draft is from USN DRAFT. True Free Surface included.

RIGHTING ARM vs HEEL ANGLE

Total CG: LCG = 2.487a TCG = 0.000a VOG = 4.138

Free Surface Adjustment: 0.494

Adjusted CG: LCG = 2.487a TCG = 0.000a VOG = 4.631

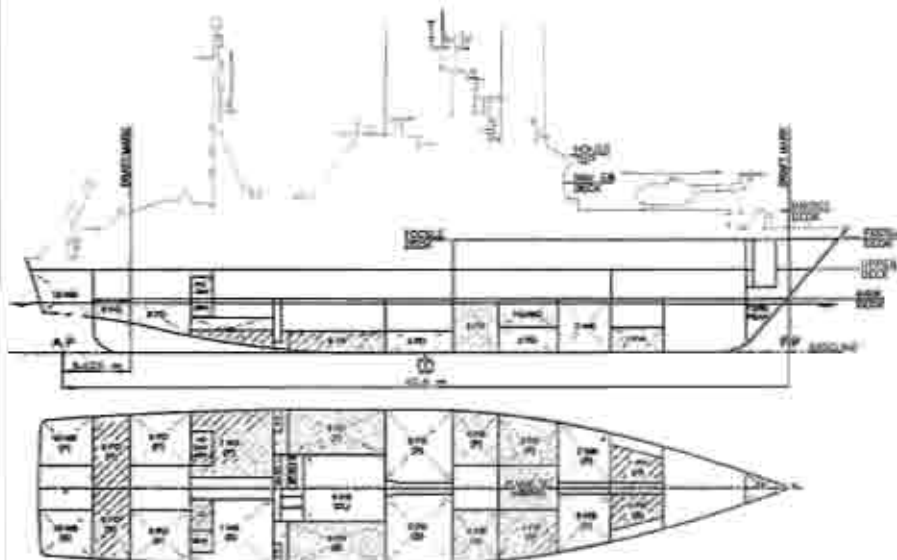
Heel	Degrees of	Displacement	Righting Arm	Flood Pt			
Heel	Trim	Heel	in Trim	in Heel	Area	Weight	
4.480	0.07a	8.45a	2,120.97	0.000	0.000	0.0000	8.145(1)
4.482	0.36a	8.95a	2,120.74	0.000	0.025	0.0005	8.433(2)
4.465	0.01a	8.43a	2,120.90	0.000	0.050	0.0022	8.112(3)
4.436	0.01a	7.93a	2,120.90	0.000	0.073	0.0049	8.783(1)
4.398	0.01a	10.45a	2,120.90	0.000	0.109	0.0087	8.446(1)
4.346	0.03a	12.85a	2,120.90	0.000	0.127	0.0137	5.103(1)
4.281	0.07a	13.45a	2,120.90	0.000	0.156	0.0198	4.751(1)
4.206	0.12a	17.85a	2,120.90	0.000	0.197	0.0273	4.402(1)
4.129	0.18a	20.45a	2,120.90	0.000	0.222	0.0362	4.040(1)
4.051	0.25a	22.95a	2,120.90	0.000	0.257	0.0467	3.689(1)
3.965	0.34a	24.42a	2,120.90	0.000	0.278	0.0535	Wing Dam.
3.860	0.31a	25.45a	2,120.90	0.000	0.296	0.0586	3.334(1)
3.737	0.38a	27.05a	2,120.91	0.000	0.316	0.0700	3.979(1)
3.601	0.42a	28.40a	2,120.61	0.000	0.323	0.0840	2.619(1)
3.554	0.42a	31.00a	2,121.18	0.000	0.332	0.0895	1.328(1)
3.479	0.44a	31.95a	2,120.59	0.000	0.315	0.0999	2.295(1)
3.317	0.45a	38.45a	2,121.00	0.000	0.297	0.1132	1.826(1)
3.216	0.45a	37.95a	2,121.02	0.000	0.273	0.1294	1.506(1)
2.986	0.38a	40.45a	2,121.05	0.000	0.284	0.1369	1.143(1)
2.772	0.32a	42.95a	2,120.74	0.000	0.214	0.1469	0.775(1)
2.578	0.24a	45.45a	2,120.51	0.000	0.178	0.1555	0.396(1)
2.374	0.16a	47.95a	2,120.90	0.000	0.122	0.1622	0.017(1)
2.145	0.10a	48.07a	2,120.90	0.000	0.129	0.1625	0.000(1)

Distances in METERS.-----Specific Gravity = 1.025.-----Area in m.-Rad.

Note: The Weight and Center of Gravity used for the righting arm 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 1067.1 m.-MT was applied to artificially modify the GM.

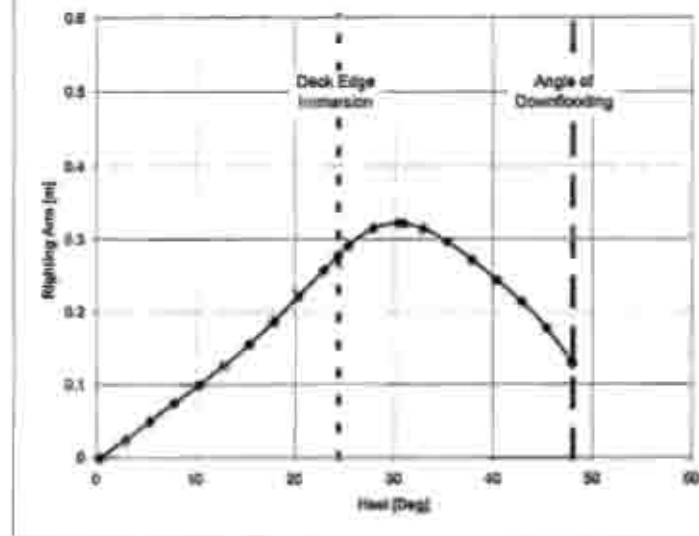
Critical Point:-----LCP-----TCP-----VCP
11. CAPTAIN'S ROOM WINDOW FLOOD 1.630a 3.000 11.300

No.14 Load Line Departure with Ice



Note: Aft crane stowed with boom positioned forward.

No.14 Load Line Departure with Ice



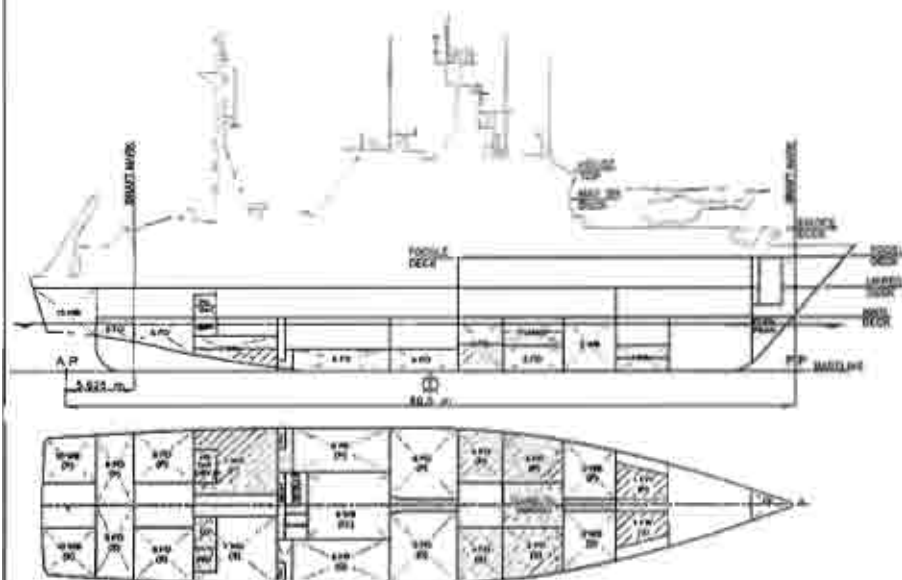
SHIP'S INTACT STABILITY CRITERIA		Min/Max	Assigned
(1) Area from 0 deg to 45 deg Flood	>	0.0900 m-Rad	0.1545 P
(2) Area from 0 deg to 30	>	0.0550 m-Rad	0.0800 P
(3) Area from 30 deg to 45 deg Flood	>	0.0300 m-Rad	0.0510 P
(4) Righting Arm at 30 deg	>	0.200 m	0.323 P
(5) GM at Equilibrium	>	0.150 m	0.571 P
(6) Angle from 0 deg to 180RA	>	25.00 deg	30.00 P

Relative angles measured from 0.451c

01/20/04 19:22:37		STX Canada Marine, Inc.						
SHE 11.50		COGS JOHN P. Tully						
NO.15 ICED FULLY LOADED INTERMEDIATE CONDITION								
WEIGHT AND DISPLACEMENT STATUS								
USM DRAFT draft: 4.233 @ 30.250, 4.338 @ 24.634								
Trim: Aft 0.101/54.875, Heel: Port 0.10 deg.								
Part	Weight (MT)		LCG	TCG	VCG			
LIGHT SHIP	1,624.60		8.545a	0.048a	4.457			
AFT STORES	5.00		22.350a	1.340p	9.585			
SWD STORES	3.00		30.000a	0.000	8.900			
Galley Stores	7.00		20.250a	0.000	9.000			
Gas in Jettableable T4	0.68		20.250a	0.100p	11.300			
42 Crew and Effects @ 125	5.00		0.000	0.000	11.000			
ICE ACCRETION	33.20		3.500a	0.000	11.300			
UPPER DECK MACHINERY	17.10		15.480a	0.050a	8.130			
UPPER DECK CONTAINER	4.35		28.100a	4.850p	8.600			
PODS DECK MACHINERY	8.98		4.320a	8.470a	11.000			
PODS DECK CONTAINER	3.84		24.350a	5.480a	11.300			
HELICOPTER	2.50		21.000a	0.500	14.300			
ROSETTE EQUIPMENT	0.90		0.700a	1.400a	9.000			
Total Fixed	1,776.17		2.793a	0.000a	6.795			
Load	SpGr	Weight (MT)	LCG	TCG	VCG			
TK7 SW.P	0.700	1.025	27.35	15.451a	3.080p	1.924	105.13	
TK4 SW.P	0.500	0.600	27.88	4.044a	3.975p	1.913	34.34	
TK4 SW.S	0.500	0.600	27.88	1.084a	3.975p	1.915	24.33	
TK1 SW.P	0.500	1.000	8.45	17.349a	1.323p	0.828	3.87	
TK1 SW.S	0.500	1.000	8.45	17.349a	1.321p	0.838	3.85	
FLNGR.C	0.480	1.025	75.21	8.424a	0.816p	3.508	708.83	
CPH OIL.P	0.500	0.890	0.62	11.184a	0.968p	0.435	0.50	
SLNGR.S	0.500	1.000	1.72	11.133a	1.268a	0.575	1.77	
SLNGR.P	0.500	0.890	2.43	18.688a	3.298a	3.425	0.77	
FOOAY.P	0.500	0.940	4.88	18.688a	3.501p	5.425	3.48	
Total Tanks			194.87	2.128a	0.611p	2.299	576.88	
Total Weight			1,971.04	2.307a	0.003p	6.350		
Null	1.025		1,971.07	2.314a	0.008p	2.387	-4.276	
HEIGHT EXCESS: 0.03								
Distances in METERS:-----Distances in m.---M								
FREBOARD STATUS								
USM DRAFT draft: 4.233 @ 30.250, 4.338 @ 24.634								
Trim: Aft 0.101/54.875, Heel: Port 0.10 deg.								
Least freeboard is 4.248 m. located at 32.130a								
Least water freeboard (to margin line) is 3.197 m. located at 32.130a								
HYDROSTATIC PROPERTIES								
Trim: Aft 0.101/54.875, Heel: Port 0.10 deg., VCG = 6.350								
Draft	Displacement	Buoyancy-Ctr.	Weight/	Moment/				
Origin	Weight (MT)	LCG	VCG	on trim	GML			
0.288	1,971.03	2.314a	1.387	7.00	5.533a	28.19	78.49	0.501
Distances in METERS:-----Specific Gravity = 1.025-----Moment in m.-MT								
Draft is from CGS DRAFT. Trim is per 54.88m. True Free Surface included.								

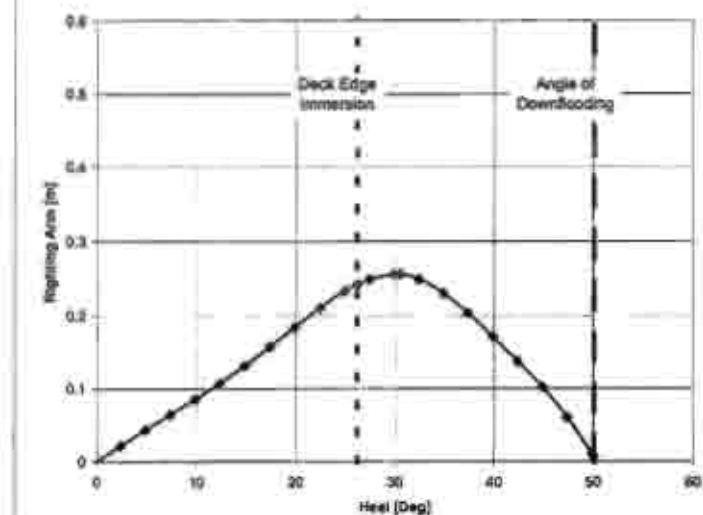
01/20/04 19:22:37 SHE 11.50		STX Canada Marine, Inc. COGS JOHN P. Tully		NO.15 ICED FULLY LOADED INTERMEDIATE CONDITION	
RIGHTING ARM vs. HEEL ANGLE					
Total CG: LCG = 2.308a TCG = 0.001 VCG = 6.350					
Free Surface Adjustment: 0.445					
Adjusted CG: LCG = 2.308a TCG = 0.001 VCG = 6.795					
Origin	Degrees of	Displacement	Righting Arm	Floors Ft	
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel
Area	Height				
4.274	3.11a	0.10p	1,970.97	0.000	0.000
4.269	3.10a	2.40a	1,970.66	0.000	0.000
4.258	0.08a	4.90a	1,971.04	0.000	0.044
4.228	0.06a	7.00a	1,971.04	0.000	0.065
4.191	0.02a	9.30a	1,971.04	0.000	0.085
4.143	0.03a	12.40a	1,971.04	0.000	0.108
4.084	0.08a	14.88a	1,971.04	0.000	0.132
4.013	0.14a	17.40a	1,971.04	0.000	0.158
3.931	0.21a	19.90a	1,971.04	0.000	0.185
3.834	0.29a	22.40a	1,971.04	0.000	0.213
3.722	0.37a	24.90a	1,971.04	0.000	0.234
3.599	0.41a	26.18a	1,971.03	0.000	0.243
3.460	0.45a	27.48a	1,971.04	0.000	0.250
3.348	0.53a	29.98a	1,970.94	0.000	0.257
3.241	0.55a	30.53a	1,971.04	0.000	0.257
3.293	0.59a	32.40a	1,971.04	0.000	0.250
3.128	0.62a	34.90a	1,971.00	0.000	0.231
2.954	0.65a	37.40a	1,971.09	0.000	0.204
2.770	0.64a	35.90a	1,971.98	0.000	0.172
2.577	0.61a	32.40a	1,971.91	0.000	0.138
2.374	0.57a	28.90a	1,970.90	0.000	0.103
2.167	0.51a	24.40a	1,970.78	0.000	0.061
1.957	0.44a	19.90a	1,970.60	0.000	0.011
1.744	0.44a	19.90a	1,971.12	0.000	0.007
Distances in METERS:-----Specific Gravity = 1.025-----Area in m.-Rad:					
Note: The Weight and Center of Gravity used for the righting arm 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 876.1 m.-MT was applied to artificially modify the CG.					

Critical Point:-----LCG-----TCG-----VCG
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300



Note: Lift crane around with boom positioned forward.

No.15 Full Load Mid-Voyage with Ice



LINE	STAB 7 INTACT STABILITY CRITERIA	Min/Max	Attained
(1)	Area from 0 deg to 40 or Flood	> 0.0900 m.-Rad	0.1102 P
(2)	Area from 0 deg to 30	> 0.0550 m.-Rad	0.0709 P
(3)	Area from 30 deg to 40 or Flood	> 0.0300 m.-Rad	0.0394 P
(4)	Righting Arm at 30 deg	> 0.200 m.	0.257 P
(5)	GM at Equilibrium	> 0.150 m.	0.507 P
(6)	Angle from 0 deg to MaxRA	> 25.00 deg	30.00 P

Relative angles measured from 0.097

2009. 11. 02

AT&T Canada Marine, Inc.
DOUG JOHN P. Tully
A FULLY LOADED ARRIVAL COMPLETION

RELIENT AND DISPLACEMENT STATUS

Time: Apr 0, 2004/04.87%, Humid: 50.00 deg.

Part	Weight (kg)	CG	CG	CG
LIGHT SHIP	1,824.60	2.594a	0.948a	0.437
APT STORES	5.00	22.360a	1.230p	0.556
TWO STORES	3.00	30.000f	0.000	0.500
Walley stores	1.40	20.200f	1.000	0.400
Sea in Jetties/Stores 1st	0.10	20.200a	0.100p	0.100
SW Crew and Efforts & 1st	5.00	0.000	0.000	0.500
ICE ACCRETION	88.20	1.400a	0.000	11.400
UPPER DECK MACHINERY	17.10	19.430a	0.020a	0.130
UPPER DECK CONTAINERS	4.15	20.100a	0.430p	0.400
LOWER DECK MACHINERY	0.44	0.220a	0.470a	0.000
LOWER DECK CONTAINERS	3.44	14.250a	0.480a	0.300
HELICOPTER	2.50	21.000f	0.000	0.500
SCOOTER EQUIPMENT	0.00	0.000a	0.400a	0.000
Total Fixed----->	1,749.89	0.860a	0.975a	0.509
CG	CG	CG	CG	CG
TWO SHIP	0.100	0.000	0.100	0.100
TWO SHIP	1.000	1.000	0.000	0.000
TWO SHIP	0.000	0.000	0.000	0.000
TWO SHIP	0.000	0.000	0.000	0.000
CG SHIP	0.000	0.000	0.000	0.000
STORES	0.000	1.000	0.000	0.000
WALLEY	0.000	0.000	0.000	0.000
SEA	0.000	0.000	0.000	0.000
SW	0.000	0.000	0.000	0.000
Total Tanker----->	1,000.00	1.000a	0.000a	0.000
Total Weight----->	1,854.89	2.320a	0.975a	0.509
CG	CG	CG	CG	CG
TWO SHIP	0.100	0.000	0.100	0.100
TWO SHIP	1.000	1.000	0.000	0.000
TWO SHIP	0.000	0.000	0.000	0.000
TWO SHIP	0.000	0.000	0.000	0.000
CG SHIP	0.000	0.000	0.000	0.000
STORES	0.000	1.000	0.000	0.000
WALLEY	0.000	0.000	0.000	0.000
SEA	0.000	0.000	0.000	0.000
SW	0.000	0.000	0.000	0.000
Total Tanker----->	1,000.00	1.000a	0.000a	0.000
Total Weight----->	1,854.89	2.320a	0.975a	0.509

WELSH - WOODWARD

Chemical Interactions

USA: 1987-1991: 4.224 + 30.212; 4.229 + 24.324

TI 1001 A51 0-204/24-RTS. Issues: 2000 0-02 Dec.

Labels frontmost in 1979 and 1980 at 11-1300.

least extra freeboard (to mean line) is 3.175 m. located at 63.106.

HYDRAULIC PROPERTIES

Trans: Aft 0.364/34.87%, Kewler Stbd 0.02 deg., YOG = 0.405

Drifts	Displacements	Recovery-Cor.	Height	Normal
Origin	Weight (W)	Time (T)	Time (T)	Time (T)
6.792	1.517 W	2.574 T	2.387	8.97 8.854 27.50 79.89 8.874

Draft as Form 114 DRAFT

True Free Access Included.

01/26/05 19:22:37
CHS 11.51

2700 Canada Marine, Inc.
attn: JON P. Tully

MEASURING FROM AN IDEAL ANGLE

Total CG: 100 = 2,514 + 200 + 4,609

Free Surface Solvent: 0.000

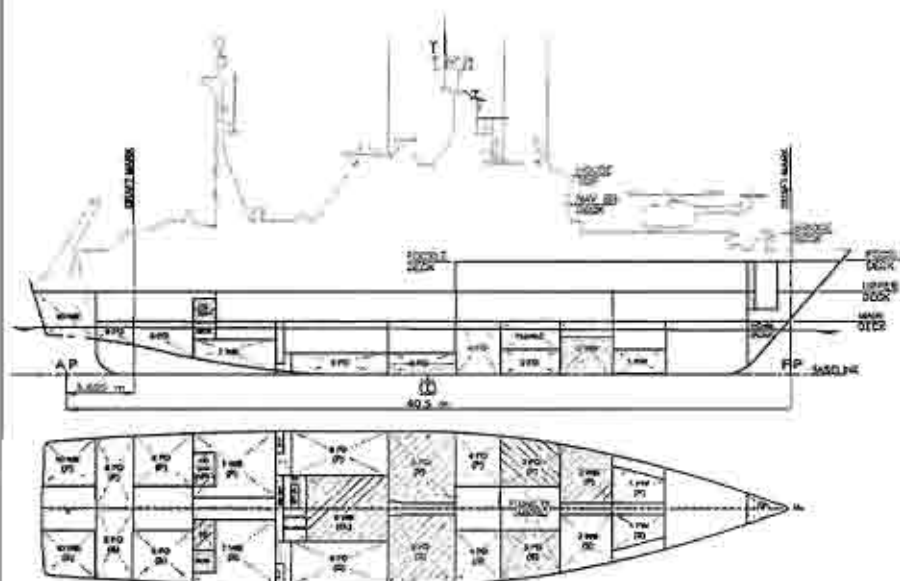
Anticardiac CP: LCC = 2.916, SSC = 3.000, VCG = 6.402

Origin	Segment of Displacement		Righting Arm		Flood Pt	
Depth	Trim	heel	in Trim	in Heel	Area	Height
0.178	0.32a	0.02a	1,017.99	0.000	0.0000	7.077(1)
0.172	0.31a	0.02a	1,017.99	0.000	0.0000	6.768(1)
0.157	0.29a	0.02a	1,017.99	0.000	0.0000	6.448(1)
0.131	0.27a	0.02a	1,017.99	0.000	0.0000	6.120(1)
0.090	0.23a	00.00a	1,017.99	0.000	0.0000	5.785(1)
0.047	0.18a	00.00a	1,017.99	0.000	0.0000	5.442(1)
0.000	0.13a	00.00a	1,017.99	0.000	0.0000	5.098(1)
0.000	0.08a	00.00a	1,017.99	0.000	0.0000	4.743(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	4.387(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	4.032(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	3.678(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	3.325(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	2.972(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	2.619(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	2.266(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	1.913(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	1.560(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	1.207(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	0.854(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	0.501(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	0.148(1)
0.000	0.00a	00.00a	1,017.99	0.000	0.0000	0.000(1)

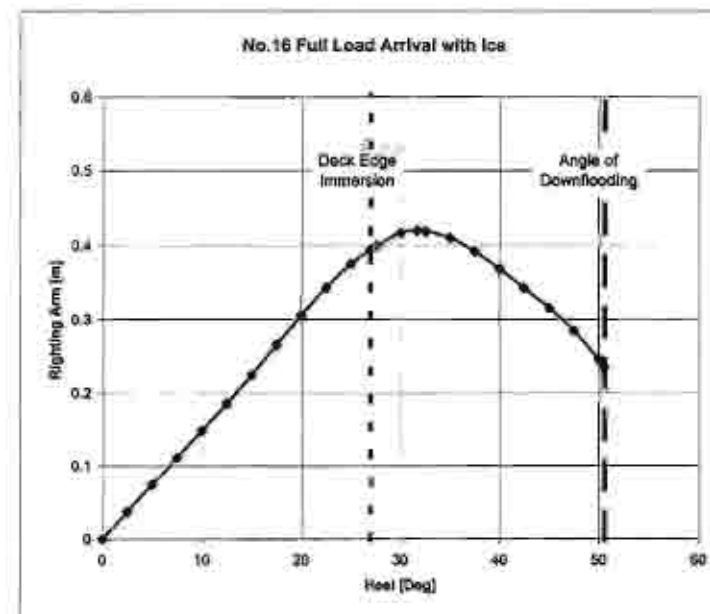
Distance in FEET. --- Specific Gravity = 1.025. --- Area in sq. ft.

Notes: The Weight and Center of Gravity used for the righting arm 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 169.5 m.-MT was applied as artificially located in the CG.

Critical Point-----		LCF	TCF	VCF
(1) CAPTAIN'S ROOM WINDOW	FLOOD	7.630e	7.200	11.300



Note: Aft crane stowed with boom positioned forward.



LIN	STAM 1 INTACT STABILITY CRITERIA	Min/Max	Attained
(1)	Area from 0 deg to 40 or flood	> 0.0900 m-Rad	0.1879 P
(2)	Area from 0 deg to 30	> 0.0550 m-Rad	0.1173 P
(3)	Area from 30 deg to 40 or flood	> 0.0300 m-Rad	0.0706 P
(4)	Righting Arm at 30 deg	> 0.200 m	0.418 P
(5)	GH at Equilibrium	> 0.150 m	0.877 P
(6)	Angle from 0 deg to MaxRA	> 25.00 deg	31.66 P

Relative angles measured from 0.021

Notes Regarding Damage Stability

This ship does not comply with one-compartment or two-compartment damage stability standards as defined by Transport Canada; specifically, the vertical extent of damage, which is required by Transport Canada's one or two compartment damage stability standard to extend from the baseline upwards without limit, has been limited to below the main deck for all damage cases presented in this book. If damage to the vessel causes progressive flooding above Main Deck, particularly within the 400, 500, and 600 level damage cases, the ship will be subject to a high risk of capsizing. The criteria used to assess the damage stability of this vessel are as follows:

- A. Heel at equilibrium is to be less than 15°;
- B. GM at equilibrium is to be greater than 0.050 m;
- C. The margin line may not be immersed at equilibrium.

No. 100 - Fore Peak @ 3.0 m	2719.8	4.311	0.603a	0.10p	1.331	24.29	Pass
No. 101 - Fore Peak @ 4.0 m	2121.8	4.512	0.479a	0.10p	1.319	24.26	Pass
No. 102 - Fore Peak @ 4.5 m	2123.0	4.516	0.469a	0.10p	1.317	24.29	Pass
No. 200 - Comp 73-81 @ 1.0 m	2114.8	4.504	0.833a	0.48p	1.329	24.22	Pass
No. 201 - Comp 73-81 @ 2.0 m	2138.8	4.537	0.321a	0.17p	1.331	24.37	Pass
No. 202 - Comp 73-81 @ 3.0 m	2180.5	4.567	0.119a	0.07p	1.336	24.02	Pass
No. 203 - Comp 73-81 @ 4.0 m	2184.0	4.660	0.103i	0.07p	1.328	23.60	Pass
No. 204 - Comp 73-81 @ 4.9 m	2205.8	4.623	0.306i	0.06p	1.377	23.33	Pass
No. 300 - Comp 52-66 @ 1.0 m	2070.8	4.438	0.872a	4.18p	1.468	24.38	Pass
No. 301 - Comp 52-66 @ 2.25 m	2108.5	4.484	0.832a	1.39p	1.410	24.35	Pass
No. 302 - Comp 52-66 @ 3.0 m	2120.9	4.512	0.479a	0.31p	1.349	24.28	Pass
No. 303 - Comp 52-66 @ 4.0 m	2138.2	4.536	0.421a	3.15p	1.408	24.18	Pass
No. 304 - Comp 52-66 @ 4.9 m	2149.7	4.653	0.383a	2.04p	1.337	24.09	Pass
No. 400 - Comp 43-52 @ 1.5 m	2116.7	4.508	0.522a	0.83p	1.316	24.23	Pass
No. 401 - Comp 43-52 @ 2.0 m	2133.5	4.530	0.480a	0.39p	1.306	24.07	Pass
No. 402 - Comp 43-52 @ 2.5 m	2162.0	4.569	0.437a	0.84p	0.966	23.80	Pass
No. 403 - Comp 43-52 @ 3.0 m	2190.3	4.608	0.383a	1.10p	1.004	23.54	Pass
No. 404 - Comp 43-52 @ 4.0 m	2247.8	4.688	0.278a	1.50p	1.054	23.04	Pass
No. 405 - Comp 43-52 @ 4.5 m	2276.0	4.726	0.227a	1.81p	1.083	22.77	Pass
No. 406 - Comp 43-52 @ 4.75 m	2290.0	4.747	0.201a	1.87p	1.202	22.63	Pass
No. 500 - Comp 38-43 @ 1.5 m	2121.5	4.513	0.520a	1.12p	1.235	24.15	Pass
No. 501 - Comp 38-43 @ 2.0 m	2154.8	4.574	0.545a	0.58p	1.282	23.46	Pass
No. 502 - Comp 38-43 @ 2.5 m	2227.2	4.661	0.585a	0.61p	0.588	22.28	Pass
No. 503 - Comp 38-43 @ 3.0 m	2289.8	4.749	0.524a	0.09p	0.598	21.18	Pass
No. 504 - Comp 38-43 @ 3.5 m	2352.1	4.836	0.664a	0.32p	0.670	20.06	Pass
No. 505 - Comp 38-43 @ 4.0 m	2414.7	4.922	0.704a	0.64p	0.735	19.07	Pass
No. 506 - Comp 38-43 @ 4.5 m	2530.2	5.062	0.771a	0.80p	1.865	18.41	Pass
No. 507 - Comp 4-28 @ 1.5 m	2068.1	4.434	0.177a	4.18p	1.451	25.10	Pass
No. 508 - Comp 4-28 @ 2.0 m	2097.2	4.476	0.278a	3.21p	1.457	24.85	Pass
No. 509 - Comp 4-28 @ 3.0 m	2150.0	4.553	0.478a	0.29p	1.385	23.87	Pass
No. 510 - Comp 4-28 @ 4.0 m	2228.9	4.662	0.833a	4.37p	1.453	21.10	Pass
No. 511 - Comp 4-28 @ 4.5 m	2273.9	4.721	1.043a	5.84p	1.529	19.49	Pass
No. 512 - Comp 4-28 @ 4.9 m	2309.8	4.770	1.211a	7.96p	1.803	18.30	Pass
No. 700 - Comp A5-4 @ 4.5 m	2126.3	4.520	0.585a	0.48p	1.322	23.91	Pass
No. 701 - Comp A5-4 @ 4.9 m	2133.3	4.522	0.638a	1.00p	1.217	21.76	Pass

Downflooding Points

Downflooding point is defined as follows:

	LCG	TCG	VOG
Captain's Room Window:	7.93	7	11.3

Permeabilities

The following permeabilities have been used:

Accommodation/Voids - 95%

Machinery spaces - 85%

Extent of Damage

Transverse

5(W)/25 measured inboard from side at deepest waterline.

Vertical

Upwards from the baseline to Main Deck (4.9 m).

Longitudinal

As defined in previous damage stability report.

Flume Tank

It is of the utmost importance for the flume tank to be empty.

"THE FLUME TANK MUST BE EMPTIED WHEN DAMAGE OCCURS"

Transport Canada / Transports Canada

NOTED - NOTÉ

On the authority of the / Par l'autorité de :

Canada Shipping Act 2001 / Loi sur le transport maritime

REGULATORY / RÉGLEMENTAIRE

Signature: *John K. Russell*

Prepared by: STX Canada Marine Inc., Doc No. 332-479-10 Rev 8, February 2009

DATE: FEB 2 2009

01/20/09 20:54:20		STX Canada Marine, Inc.					
DME 11.30		COGS JOHN P. Tully					
NO.105 - FOREPEAK 2 3.0M - LOADLINE DEPARTURE CONDITION							
HEIGHT and DISPLACEMENT STATUS							
USK DRAFT draft: 4.180 & 30.250, 4.483 & 24.43a							
Trim: Aft 0.023/54.873, Heel: Port 0.10 deg.							
Part	Weight (MT)	LCG	TCG	VOG			
LIGHT SHIP	1,424.00	2.595a	1.018a	4.657			
AFT STORES	5.00	22.350a	1.030p	8.500			
FW STORES	3.00	30.000a	0.000	8.500			
Galley Stores	14.00	20.250p	0.000	4.900			
Gas in Jettisonable TX	0.88	20.250a	1.100p	11.000			
42 Cies and Effects & 125	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490a	0.000a	8.130			
UPPER DECK CONTAINER	4.35	24.100a	4.600p	8.600			
POCILE DECK MACHINERY	8.90	0.320a	4.670a	11.000			
POCILE DECK CONTAINER	3.94	14.350a	5.400a	11.300			
HELICOPTER	2.50	21.000a	0.000	14.300			
ROCKET EQUIPMENT	0.90	0.700a	5.600a	9.000			
Total Fixed	1,689.97	2.489a	0.949a	4.543			
Load	ppGt	LCG	TCG	VOG	PSM		
TK2_HB.P	0.200	1.025	16.41	13.072a	1.829p	1.019	14.49
TK3_HB.P	0.350	0.840	17.32	8.331a	2.490p	1.502	17.09
TK4_HB.P	0.240	0.840	34.45	4.790a	4.149p	2.085	27.25
TK5_HB.P	0.380	0.840	34.65	4.090a	4.144a	2.805	27.23
TK6_HB.P	1.020	0.840	34.66	0.400a	3.066p	1.248	0.00
TK7_HB.P	1.000	0.840	34.66	0.400a	3.066a	1.248	0.00
TK8_HB.P	0.990	0.840	24.33	7.359a	4.991p	1.441	22.82
TK9_HB.P	0.980	0.840	24.33	7.359a	4.988a	1.441	22.76
TK10_HB.P	0.980	0.840	37.71	21.911a	3.110p	3.829	35.45
TK11_HB.P	0.980	0.840	37.71	21.911a	4.110a	3.829	35.45
TK12_HB.P	0.980	0.840	23.84	26.097a	2.767p	4.095	57.34
TK13_HB.P	0.980	0.840	23.84	26.097a	2.759a	4.095	57.44
TK14_HB.P	0.980	1.000	16.56	17.364a	1.520p	1.322	6.87
TK15_HB.P	0.980	1.000	16.56	17.364a	1.518a	1.322	6.85
CPP_OIL.P	0.500	0.890	0.62	11.185a	0.905p	0.435	0.50
SLUDGE.B	0.223	1.000	0.77	11.102a	1.266a	0.404	0.90
SWHAGE.S	0.100	0.890	0.49	18.703a	5.297a	1.255	0.77
FOREPEAK.C	0.070	1.025	1.41	27.246a	0.000	2.360	0.12
Permeability override	0.950						
FODAY.P	0.960	0.840	9.58	18.689a	3.521p	5.829	3.49
Total Tanks			429.92	4.805a	0.282p	2.571	338.76
Total Weight			2,119.90	3.094a	0.000p	3.759	
HULL	0.025		Displ (MT)	LCG	TCG	VOG	Refmt
			2,119.88	1.122a	0.007p	2.717	-4.443
Righting Arm		0.000		0.400			
Distances in METERS						Meters & in.-MM	
FREEBOARD STATUS							
USK DRAFT draft: 4.177 & 30.250, 4.486 & 24.83a							
Trim: Aft 0.489/54.873, Heel: Port 0.09 deg.							
Least freeboard is 2.805 m. located at 32.130a							
Least extra freeboard (no margin 12m) is 2.805 m. located at 32.130a							

01/20/09 20:54:20
DME 11.30

STX Canada Marine, Inc.
COGS JOHN P. Tully

NO.105 - FOREMAN 2 3.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 2.429/54.875, Heel: Port 0.08 deg., VOG = 5.743

LCF Displacement	Buoyancy-Ctr.	Weight/	Moment/		
Draft	Height (MT)	LCG	TCG	LCF	CM
4.498	2,110.99	3.090a	3.709	7.08	5.748a
Distances in METERS					
Specific Gravity = 1.025					
Trim is per 54.88a					
Draft is from USK DRAFT					
Trim Free Surface Included					

RIGHTING ARM vs HEEL ANGLE

Total CG: LCG = 2.044a TCG = 3.002p VOG = 5.743

Free Surface Adjustment: 0.171

Adjusted CG: LCG = 1.865a TCG = 1.002p VOG = 5.914

Origin	Degrees of	Displacement	Righting Arm	Fixed Ps	
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel
4.433	0.51a	0.00p	2,111.31	0.000	0.000
4.427	0.51a	2.50p	2,110.81	0.000	0.057
4.410	0.51a	5.00p	2,110.60	0.000	0.116
4.381	0.48a	7.50p	2,110.59	0.000	0.174
4.347	0.47a	10.00p	2,110.59	0.000	0.232
4.299	0.44a	12.50p	2,110.59	0.000	0.291
4.238	0.40a	15.00p	2,110.59	0.000	0.350
4.168	0.36a	17.50p	2,110.59	0.000	0.408
4.085	0.29a	20.00p	2,110.59	0.000	0.461
3.988	0.22a	22.50p	2,110.59	0.000	0.514
3.810	0.17a	24.99p	2,110.59	0.000	0.564
3.677	0.10a	27.00p	2,110.59	0.000	0.612
3.752	0.09a	27.50p	2,111.00	0.000	0.663
3.617	0.04a	30.00p	2,110.59	0.000	0.694
3.471	0.03a	32.50p	2,111.07	0.000	0.710
3.314	0.01a	35.00p	2,111.11	0.000	0.714
3.213	0.03a	35.10p	2,111.07	0.000	0.714
3.148	0.05a	37.50p	2,111.20	0.000	0.711
2.972	0.09a	40.00p	2,111.11	0.000	0.702
2.786	0.15a	42.50p	2,111.04	0.000	0.691
2.592	0.23a	45.00p	2,111.06	0.000	0.677
2.393	0.31a	47.50p	2,110.97	0.000	0.654
2.283	0.32a	47.71p	2,111.47	0.000	0.652
Distances in METERS					
Specific Gravity = 1.025					
Area in m.-Rad.					

Note: The weight and Center of Gravity used for the righting arm 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 360.2 m.-MT was applied to artificially modify the CG.

Critical Point:

11) CAPTAIN'S ROOM WINDOW FLOOD 2.430a 7.000 11.300

01/21/09 08:53:40 STX Canada Marine, Inc.
 QMS 11.50 COGS JOHN P. Tully
 NO.101 - FOREPEAK 4.0M - LOADLINE DEPARTURE CONDITION

WEIGHTS and DISPLACEMENT STATUS
 USK DRAFT draft: 3.199 & 30.252, 1.679 & 34.63a
 Trim: Aft 0.479/54.875, Heel: Port 0.10 deg.

Part		Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP		1,628.60	2.595a	0.000p	6.457	
AFT STORES		5.00	22.350a	1.330p	6.566	
POD STORES		3.00	30.200a	0.000	6.500	
Galley Stores		14.00	20.250a	0.000	6.500	
Gas in Petrolizable Tank		0.03	20.250a	0.100p	11.000	
40 Crew and Effects & 125		5.00	0.000	0.000	11.000	
UPPER DECK MACHINERY		17.10	18.690a	0.800a	8.130	
UPPER DECK CONTAINERS		4.35	26.100a	0.630p	8.000	
PODDLE DECK MACHINERY		8.98	8.320a	0.670a	11.000	
PODDLE DECK CONTAINERS		3.48	14.150a	0.180a	11.300	
HELICOPTER		2.50	21.000a	0.000	14.300	
ROSETTE EQUIPMENT		0.90	4.700a	0.600a	9.000	
Total Fixed		1,659.97	2.630a	0.660a	6.543	
	Load	SpGr	Weight (MT)	LCG	TCG	VCG
TK1_HB.P	0.900	1.025	16.41	13.672a	1.408p	1.013
TK1_PO.P	0.950	0.840	17.11	9.312a	3.440p	1.503
TK2_PO.P	0.940	0.840	34.65	4.580a	4.146p	2.885
TK3_PO.S	0.980	0.840	54.65	4.390a	1.144a	2.885
TK5_PO.P	1.000	0.840	34.66	0.460a	3.066p	1.248
TK5_PO.S	1.000	0.840	34.66	0.465a	3.066a	1.248
TK4_PO.P	0.980	0.840	24.13	7.338a	4.991p	1.460
TK6_PO.S	0.990	0.840	24.13	7.338a	4.988a	1.460
TK8_PO.P	0.980	0.840	37.71	21.911a	4.116p	3.829
TK8_PO.S	0.980	0.840	37.71	21.911a	4.110a	3.829
TK9_PO.P	0.980	0.840	23.84	20.096a	2.783p	6.895
TK9_PO.S	0.980	0.840	23.84	20.096a	2.759a	6.895
TK1_FW.P	0.950	1.000	16.56	17.360a	1.520p	1.122
TK1_FW.S	0.990	1.000	16.56	17.360a	1.518a	1.122
OPP_OIL.P	0.500	0.890	0.62	11.180a	0.906p	0.425
SLUDGE.S	0.223	1.000	0.77	11.102a	1.286a	0.604
SLUDGE.S	0.100	0.280	0.69	18.702a	0.397a	3.285
FOREPEAK.C	0.175	1.025	3.32	27.290a	0.600	3.112
Permeability override:	0.990					
FOOT.P	0.960	2.900	0.08	18.888a	3.020p	3.829
Total Tanks			232.00	4.663a	0.280p	2.578
Total Weight			2,122.00	2.063a	0.002p	5.735
			Displ (MT)	LCG	TCG	VCG
HULL	1.025		2,121.93	3.089a	0.007p	2.719
			Righting Arms	0.000	0.000	
			Distance in METERS			Distance in m.-Rad

FREEBOARD STATUS

USK DRAFT draft: 3.199 & 30.252, 1.679 & 34.63a
 Trim: Aft 0.479/54.875, Heel: Port 0.10 deg.
 Least freeboard is 2.872 m. located at 33.130a
 Least extra freeboard (to margin line) is 2.786 m. located at 33.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
 QMS 11.50 COGS JOHN P. Tully
 NO.101 - FOREPEAK 4.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
 Trim: Aft 0.479/54.875, Heel: Port 0.10 deg., VCG = 5.735

LCG	Displacement	Buoyancy-Ctr.	Height/	Moment/				
Coast	Weight (MT)	LCG	VCG	on trim	on trim	on trim	DWT	
4.513	2,121.93	3.069a	2.719	7.09	3.758a	29.18	75.60	1.319
Distance in METERS		Specific Gravity = 1.025						Moment in m.-MT.
								Trim is per 34.63m.
								Craft is from USK DRAFT.
								True Free Surface included.

RIGHTING ARMS vs HEEL ASSESS
 Total CG: LCG = 3.063a TCG = 0.003p VCG = 5.735
 Free Surface Adjustment: 0.162
 Adjusted CG: LCG = 3.063a TCG = 0.003p VCG = 5.897

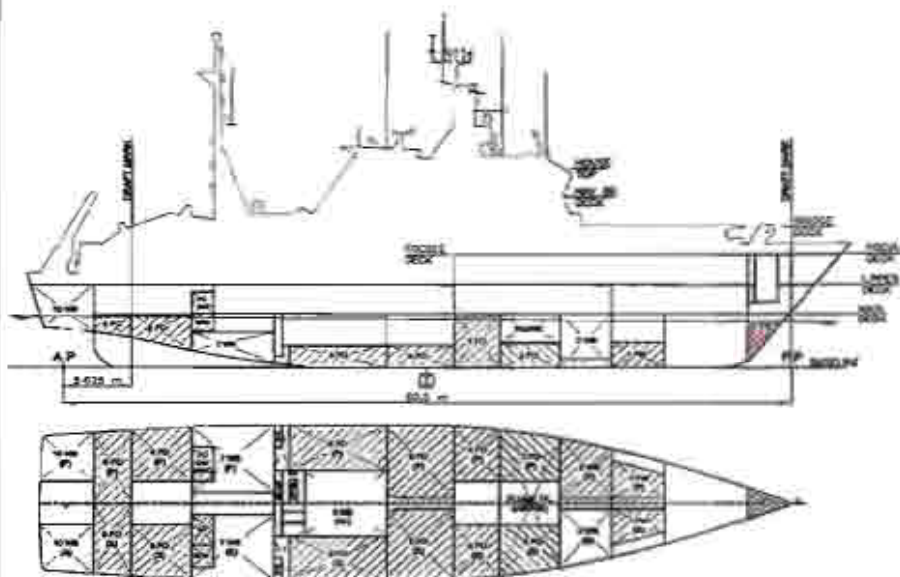
Origin	Degrees of Displacement			Righting Arms		Flood Pt	
Depth	Trim	Heel	Weight (MT)	Prm	Heel	Area	Height
6.418	0.00a	0.10p	2,122.33	0.000	0.000	0.0000	6.772(1)
6.443	0.00a	0.40p	2,121.84	0.000	0.008	0.0013	6.461(1)
6.427	0.00a	1.10p	2,121.65	0.000	0.114	0.0051	6.140(1)
6.401	0.40a	7.60p	2,122.02	0.000	0.175	0.0114	5.810(1)
6.342	0.48a	19.10p	2,122.02	0.000	0.234	0.0202	5.473(1)
6.315	0.61a	12.60p	2,122.02	0.000	0.293	0.0318	5.129(1)
6.210	0.38a	15.10p	2,122.02	0.000	0.355	0.0460	4.780(1)
6.189	0.38a	17.60p	2,122.02	0.000	0.419	0.0628	4.425(1)
6.100	0.28a	30.10p	2,122.02	0.000	0.465	0.0829	4.069(1)
6.008	0.22a	22.40p	2,122.02	0.000	0.562	0.1052	3.710(1)
5.971	0.17a	24.20p	2,122.02	0.000	0.594	0.1219	Macro Item.
5.892	0.13a	25.10p	2,122.02	0.000	0.617	0.1307	3.353(1)
5.787	0.30a	27.60p	2,122.02	0.000	0.649	0.1588	2.993(1)
5.672	0.05a	30.10p	2,122.02	0.000	0.700	0.1887	2.629(1)
5.486	0.01a	32.40p	2,122.09	0.000	0.716	0.2197	2.259(1)
5.330	0.03a	35.10p	2,122.13	0.000	0.721	0.2510	1.886(1)
5.118	0.03a	35.30p	2,122.13	0.000	0.721	0.2538	1.453(1)
5.146	0.04a	37.60p	2,122.32	0.000	0.718	0.2824	1.111(1)
5.088	0.10a	40.10p	2,122.14	0.000	0.710	0.3124	1.134(1)
5.000	0.17a	41.60p	2,122.06	0.000	0.700	0.3444	0.757(1)
5.009	0.24a	43.10p	2,122.07	0.000	0.688	0.3747	0.378(1)
5.418	0.33a	47.60p	2,122.04	0.000	0.668	0.4041	-0.003(1)

Distance in METERS. Specific Gravity = 1.025. Area in m.-Rad.

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 343.5 m.-MT was applied to artificially modify the CG.

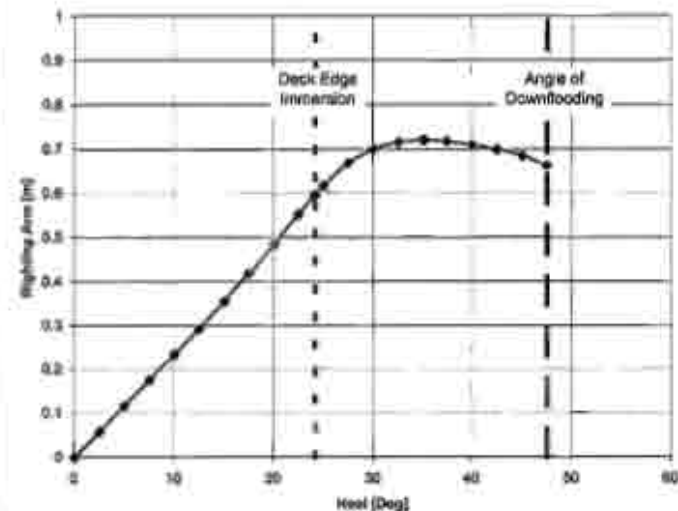
Critical Point: LCG = 3.063a TCG = 0.003p VCG = 5.897
 (1) CAPTAIN'S ROOM WINDOW FLOOD 7.130a 7.000 11.300

Damage Case No.101 - Fore Peak @ 4.0 m



NOTE: Helicopter included in mass (not depicted in diagram above).

Damage Case No.101 - Fore Peak @ 4.0 m



DAMAGE STABILITY CRITERIA				Min/Max	Attained
(1)	GM at Equilibrium	>	0.050	m	1.319
(2)	Absolute Angle at Equilibrium	<	15.00	deg	0.10
(3)	Absolute Angle at Deck/margin immersion	>	5.00	deg	24.26

01/21/00 08:53:40		STX Canada Marine, Inc.			
SAS 11.50		CODE JOHN P. Tully			
NO.102 - FOREPEAK @ 4.5M - LOADLINE DEPARTURE CONDITION					
WEIGHT and DISPLACEMENT STATUS					
USK DRAFT draft: 4.514 @ 30.250, 4.674 @ 24.834					
Trim: Aft 0.440/54.875, Heel: Port 0.10 deg.					
Part	Weight (MT)		LOC	TOC	VCG
LIGHT SHIP	1,624.60	2.595a	0.049a	6.457	
APT STORES	5.00	22.350a	1.930p	4.656	
PWD STORES	3.00	30.000p	0.000	8.500	
Galley Stores	14.00	20.250a	0.000	4.000	
Gas in Jettisonable Tx	0.00	20.250a	0.100p	11.000	
40 Crew and Effects @ 125	5.00	0.300	0.000	11.000	
UPPER DECK MACHINERY	17.10	19.490a	0.000a	9.130	
UPPER DECK CONTAINER	4.55	24.100a	4.650p	8.800	
POCKET DECK MACHINERY	9.98	8.320a	4.670p	11.000	
POCKET DECK CONTAINER	3.86	14.350a	5.480a	11.500	
HELICOPTER	2.00	21.000p	0.000	14.300	
ROSETTE EQUIPMENT	0.90	0.700a	5.600a	5.000	
Total Fixed	1,669.97	2.659a	0.069a	6.543	
Load	Spd	Weight (MT)	LOC	TOC	VCG
TNK_H2O	0.200	1.025	16.61	13.073a	1.428p
TNK_H2O.P	0.950	0.840	17.32	9.331a	1.503
TNK_H2O.S	0.940	0.840	34.65	4.930p	2.485
TNK_H2O.S	0.980	0.840	54.65	4.090p	2.805
TNK_H2O.S	1.000	0.840	34.66	0.465a	1.249
TNK_H2O.S	1.000	0.840	34.66	0.465a	1.249
TNK_H2O.S	0.980	0.840	24.13	7.357a	1.469
TNK_H2O.S	0.980	0.840	24.13	7.357a	1.469
TNK_H2O.S	0.980	0.840	37.71	21.910a	3.929
TNK_H2O.S	0.980	0.840	37.71	21.910a	3.929
TNK_H2O.S	0.980	0.840	23.84	26.056a	4.035
TNK_H2O.S	0.980	0.840	23.84	26.056a	4.035
TNK_H2O.S	0.980	1.000	16.56	17.865f	1.322
TNK_H2O.S	0.980	1.000	16.56	17.865f	1.322
OPP OIL.P	0.900	0.850	0.62	11.185a	0.453
SLUDGS.S	0.223	1.000	0.77	11.101a	0.404
SEAWATER	0.100	0.800	0.49	18.702a	3.285
FOREPEAK.C	0.257	1.025	9.22	27.470f	3.481
Personability overrides:	0.550				
FOGAY.P	0.980	0.940	4.88	19.455a	3.929
Total Tanks			833.73	4.320a	2.343
Total Weight			2,123.69	3.031a	5.734
Displacement			2,123.69	3.031a	5.734
NOLE	1.025		2,123.60	3.064a	2.720
Righting Arms			0.500	0.000	
Distances in METERS					
FREEBOARD STATUS					
USK DRAFT draft: 4.514 @ 30.250, 4.674 @ 24.834					
Trim: Aft 0.440/54.875, Heel: Port 0.10 deg.					
Least freeboard is 2.679 m. located at 22.130a					
Least extra freeboard (no margin line) is 2.823 m. located at 22.130a					

01/21/00 08:53:40

STX Canada Marine, Inc.

SAS 11.50

CODE JOHN P. Tully

NO.102 - FOREPEAK @ 4.5M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.440/54.875, Heel: Port 0.10 deg., VCG = 5.734

LCF	Displacement	Subsidence-Ctr.	Weight/	Moment/
Draft	Weight (MT)	LCB	VCG	on trim
4.514	2,123.60	3.064a	2.720	5.749a 29.23 75.48 1.317

Distances in METERS. --- Specific Gravity = 1.025 --- Moment in m.-MT.

Trim is per 34.88m.

Draft is from USK DRAFT.

True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LOC = 2.039a TOC = 0.002p VCG = 5.734

Free Surface Adjustments: 0.163

Adjusted CG: LOC = 1.640a TOC = 0.003p VCG = 5.497

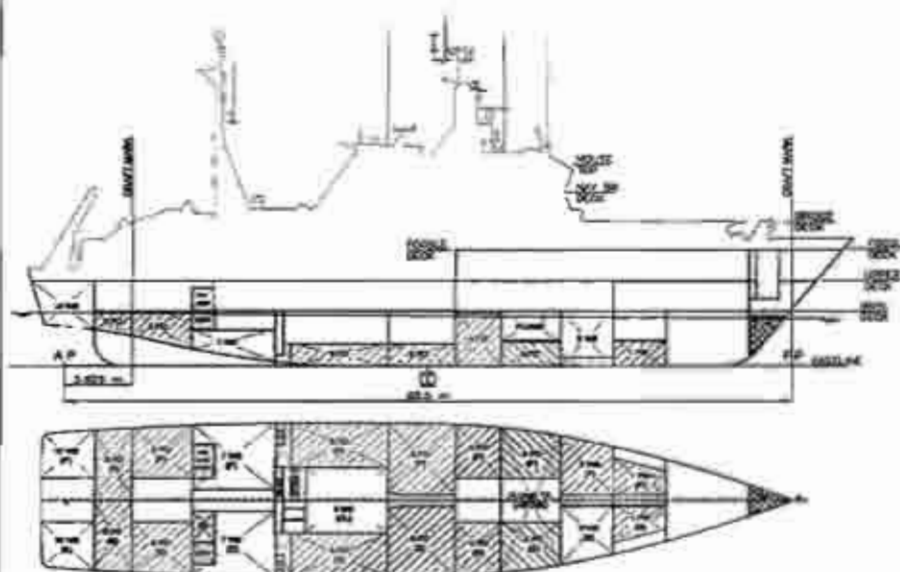
Origin	Degrees of	Displacement	Righting Arms	Flood Pt
Depth	Trim	Heel	Weight (MT)	In Trim--In Heel--> Area --Height
4.454	0.48a	0.10p	2,124.00	0.000 0.000 0.0000 4.770(1)
4.448	0.48a	0.00p	2,123.50	0.000 0.058 0.0013 4.459(1)
4.433	0.48a	0.10p	2,123.31	0.000 0.114 0.0058 4.138(1)
4.403	0.48a	0.00p	2,123.69	0.000 0.174 0.0114 3.809(1)
4.367	0.48a	10.10p	2,123.69	0.000 0.233 0.0203 3.472(1)
4.319	0.41a	12.60p	2,123.69	0.000 0.293 0.0318 3.126(1)
4.259	0.37a	15.10p	2,123.69	0.000 0.354 0.0429 2.778(1)
4.188	0.32a	17.60p	2,123.69	0.000 0.418 0.0487 2.426(1)
4.104	0.28a	20.10p	2,123.69	0.000 0.484 0.0524 2.067(1)
4.007	0.20a	22.60p	2,123.69	0.000 0.551 0.0550 1.709(1)
3.934	0.15a	24.20p	2,123.69	0.000 0.596 0.0519 Mary Inn.
3.898	0.13a	25.10p	2,123.69	0.000 0.616 0.0504 3.352(1)
3.771	0.06a	27.60p	2,123.69	0.000 0.668 0.0480 2.993(1)
3.635	0.03a	30.10p	2,123.69	0.000 0.699 0.0464 2.628(1)
3.490	0.01a	32.60p	2,123.74	0.000 0.716 0.0453 2.258(1)
3.333	0.01a	35.10p	2,123.79	0.000 0.721 0.0450 1.886(1)
3.115	0.02a	35.38p	2,123.80	0.000 0.721 0.0443 1.503(1)
3.167	0.04a	37.60p	2,123.88	0.000 0.718 0.0420 1.111(1)
2.991	0.08a	40.10p	2,123.80	0.000 0.711 0.0332 0.734(1)
2.805	0.15a	42.60p	2,123.72	0.000 0.700 0.0240 0.356(1)
2.611	0.22a	45.10p	2,123.72	0.000 0.688 0.0173 0.000(1)
2.414	0.31a	47.98p	2,123.71	0.000 0.664 0.0103 0.000(1)

Distances in METERS. --- Specific Gravity = 1.025 --- Area in m.-Rad.

Note: The weight and Center of Gravity used for the righting arm above include tank loads. However, the tank load contents were NOT ALLOWED TO SHIFT with heel and trim changes. Rather, a constant Free Surface Moment of 346.1 m.-MT was applied to artificially modify the CG.

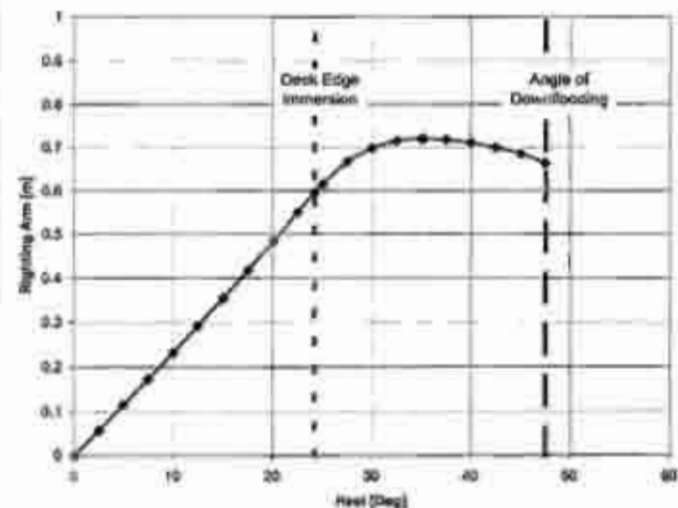
Critical Point	LOC	TOC	VCG
(1) CAPTAIN'S ROOM WINDOW	FLOOD	1.630a	7.000 11.300

Damage Case No.102 - Fore Peak @ 4.5 m



NOTE: Helicopter included in case load outlined in diagram above.

Damage Case No.102 - Fore Peak @ 4.5 m



ITEM	CRITERION	MIN/MAX	ACHIEVED
(1)	GM at Equilibrium	0.000 m	1.117 m
(2)	Absolute Angle at Equilibrium	0.00 deg	0.12 deg
(3)	Absolute Angle at Deckmargin Immersion	0.00 deg	24.29 deg

01/21/09 08:53:40 STX Canada Marine, Inc.
SRS 11.50 COGS JOHN P. Tully
NO.200 - COMPT 71-91 @ 1.0M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT: 4.152 @ 30.25d, 4.697 @ 24.63a
Trim: Aft 0.533/34.875, Heel: Port 0.48 deg.

Post	Weight (MT)	LCG	TCG	VCG			
LIGHT SHIP	1,624.60	2.595a	0.048a	6.457			
APT STORES	5.00	22.350a	1.330p	4.386			
PRD STORES	3.00	30.000a	0.500	8.500			
Wally Stores	14.00	20.250a	0.500	6.000			
Gas in Jettisonable TK	0.68	30.250a	6.100p	11.000			
49 Crew and Effects @ 125	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490a	0.250a	8.130			
UPPER DECK CONTAINER	4.35	26.100a	4.650p	4.800			
POCSLE DECK MACHINERY	8.98	8.320a	0.670a	11.000			
POCSLE DECK CONTAINER	3.86	14.350a	5.480p	11.300			
HELICOPTER	2.50	21.000a	0.000	14.300			
ROSETTE EQUIPMENT	0.90	0.700a	5.600a	9.000			
Total Fixed----->	1,889.97	2.655a	0.069a	6.943			
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSM
TK1_WB.P	0.200	1.025	16.61	13.089a	1.835p	17.90	
TK1_PO.P	0.850	0.840	17.32	8.320a	3.455p	11.34	
TK4_PO.P	0.860	0.840	54.65	4.090a	4.140p	2.65	
TK4_PO.S	0.960	0.840	54.65	4.090a	4.140p	2.65	
TK5_PO.P	1.000	0.840	34.66	0.465a	3.864p	0.00	
TK5_PO.S	1.000	0.840	34.66	0.465a	3.864p	0.00	
TK6_PO.P	0.980	0.840	24.13	7.358a	4.598p	21.78	
TK6_PO.S	0.980	0.840	24.13	7.358a	4.598p	21.78	
TK9_PO.P	0.980	0.840	37.72	21.911a	4.120p	3.82	
TK9_PO.S	0.980	0.840	37.72	21.911a	4.120p	3.82	
TK1_FW.P	0.980	1.000	16.56	17.362a	1.523p	6.43	
TK1_FW.S	0.301	1.025	5.22	17.353a	1.190a	0.59	
CPP_OIL.P	0.500	0.890	0.62	11.185a	0.912p	0.50	
SLUDGE.S	0.223	1.000	0.77	11.106a	1.278a	0.68	
SENAGE.S	0.100	0.890	0.49	18.704a	5.237a	0.77	
BOMTRSCOMP.C	0.088	1.025	7.97	21.940a	0.007p	0.99	
Permeability override:	0.850						
TOTAL.P	0.980	0.840	9.58	12.680a	1.503p	2.49	
Total Tanks----->			420.34	5.003a	0.305p	2.50	523.17
Total Weight----->			2,315.11	3.130a	0.012p	5.762	
			Disp1 (MT)	LCG	TCG	VCG	Arch
MULL	1.825		2,314.92	3.159a	0.038p	2.711	-6.433
	Righting Arms		4.000	0.000p			
Distances in METERS							Moments in m.-MT

PREBOARD STATUS
USK DRAFT: 4.152 @ 30.25d, 4.697 @ 24.63a
Trim: Aft 0.533/34.875, Heel: Port 0.48 deg.
Least Freeboard is 2.810 m. located at 32.130a
Least extra freeboard (to margin line) is 2.734 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
SRS 11.50 COGS JOHN P. Tully
NO.200 - COMPT 71-91 @ 1.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 0.533/34.875, Heel: Port 0.48 deg., VCG = 5.742

LCF	Displacement	Buoyancy-Ctr.	Height/	Moment/					
Draft	Weight (MT)	LCG	VCG	CG	LCF	CG	LCF	CG	LCF
4.504	2,114.92	3.159a	2.714	7.08	5.764a	29.12	75.57	1.329	
Distance in METERS									
Specific Gravity = 1.025									
Trim is per 34.88m.									
Draft is from USK DRAFT.									
True Free Surface included.									

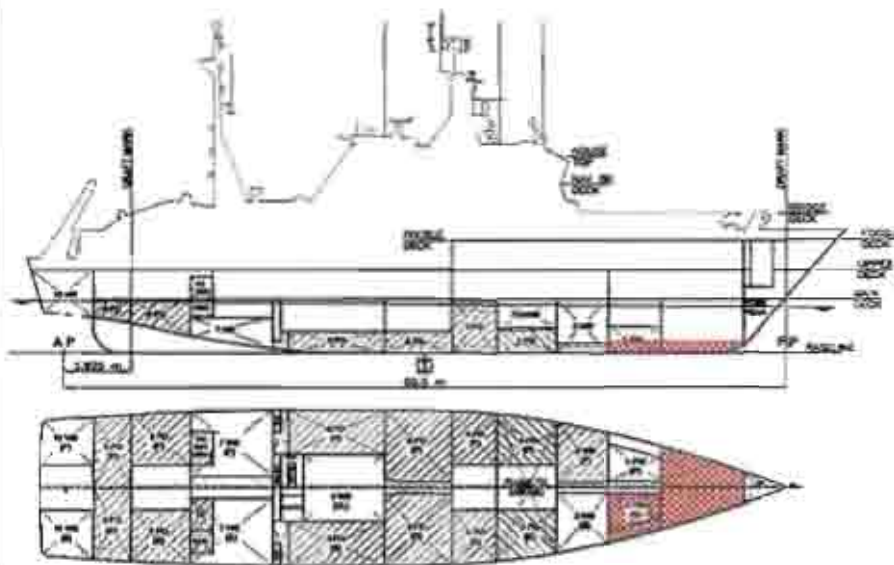
RIGHTING ARMS vs HEEL ANGLE
Total CG: LCG = 3.130a TCG = 0.012p VCG = 5.742
Free Surface Adjustment: 0.153
Adjusted CG: LCG = 3.131a TCG = 0.011p VCG = 5.895

Origin	Degrees of		Displacement	Righting Arms			Flood Pt
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Height
4.435	0.56a	0.48p	2,115.40	0.000	0.000	0.0000	6.732(1)
4.426	0.56a	2.98p	2,114.92	0.000	0.058	0.0013	6.420(1)
4.408	0.65a	5.48p	2,114.87	0.000	0.117	0.0051	6.098(1)
4.380	0.94a	7.98p	2,115.11	0.000	0.176	0.0115	5.766(1)
4.341	0.97a	10.48p	2,115.11	0.000	0.236	0.0205	5.428(1)
4.291	0.68a	12.98p	2,115.11	0.000	0.297	0.0321	5.082(1)
4.239	0.44a	15.48p	2,115.10	0.000	0.359	0.0464	4.732(1)
4.187	0.39a	17.98p	2,115.11	0.000	0.424	0.0635	4.377(1)
4.072	0.33a	20.48p	2,115.11	0.000	0.491	0.0834	4.020(1)
3.974	0.26a	22.98p	2,115.11	0.000	0.558	0.1063	3.661(1)
3.920	0.75a	24.22p	2,115.11	0.000	0.590	0.1187	3.304(1)
3.860	0.19a	25.48p	2,115.11	0.000	0.622	0.1321	2.946(1)
3.734	0.13a	27.98p	2,115.11	0.000	0.670	0.1603	2.587(1)
3.597	0.09a	30.48p	2,115.11	0.000	0.699	0.1903	2.227(1)
3.450	0.08a	32.98p	2,115.18	0.000	0.712	0.2211	1.867(1)
3.293	0.09a	35.48p	2,115.23	0.000	0.716	0.2523	1.508(1)
3.252	0.09a	36.11p	2,115.23	0.000	0.719	0.2601	1.140(1)
3.126	0.11a	37.98p	2,115.37	0.000	0.712	0.2834	0.780(1)
2.916	0.16a	40.48p	2,115.22	0.000	0.703	0.3143	0.420(1)
2.762	0.23a	42.98p	2,115.61	0.000	0.693	0.3448	0.060(1)
2.567	0.30a	45.48p	2,115.16	0.000	0.679	0.3747	-0.324(1)
2.398	0.38a	47.81p	2,115.21	0.000	0.658	0.3995	-0.600(1)
Distances in METERS							
Specific Gravity = 1.025							
Area in m.-Rad.							

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 323.2 m.-MT was applied to artificially modify the CG.

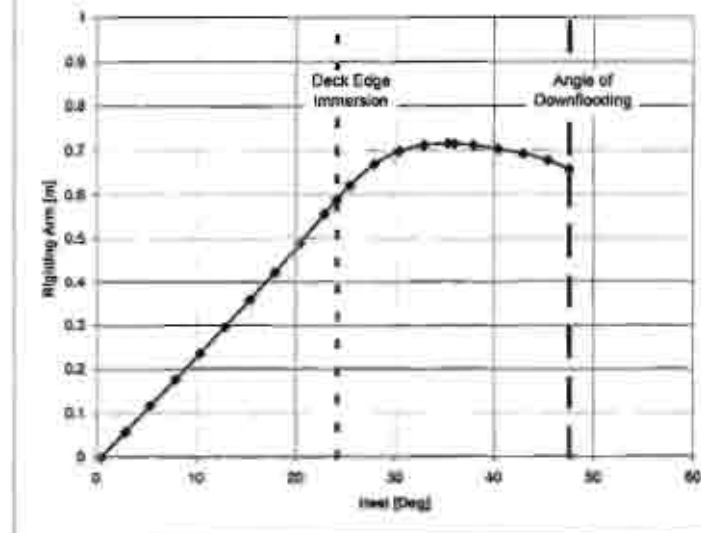
Critical Point: LCG = 3.130a TCG = 0.012p VCG = 5.742
1) CAPTAIN'S ROOM WINDOW FLOOD 5.630a 7.000 11.300

Damage Case No.200 - Comp 73-91 @ 1.0 m



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.200 - Comp 73-91 @ 1.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) On at Equilibrium	>	0.050	m. 1.138 P
(2) Absolute Angle at Equilibrium	<	25.00	deg 0.68 P
(3) Absolute Angle at Deck/margin Immersion	>	0.00	deg 24.22 P

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CGCS JOHN P. Tully
NO.201 - COMPT 73-91 @ 2.0M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT: 4.328 @ 30.25t, 4.617 @ 24.53t
Trim: Aft 0.321/54.875, Heel: Port 0.17 deg.

Port	Weight (MT)	LCG	TCG	VCG		
LIGHT SHIP	1,624.60	2.555a	0.044a	6.457		
APT STORES	5.00	22.350a	1.330p	8.556		
PSD STORES	3.00	30.000f	0.100	8.900		
Galley Stores	14.00	20.250f	0.060	8.000		
Gas in Jettisonable TR	0.68	20.250a	4.100p	11.000		
49 Crew and Effects @ 121	5.00	0.900	0.000	11.000		
UPPER DECK MACHINERY	17.10	19.490a	0.050a	8.130		
UPPER DECK CONTAINER	4.35	26.100a	4.650p	8.600		
FOODS DECK MACHINERY	8.98	8.120a	4.070a	11.000		
FOODS DECK CONTAINER	3.66	14.350a	5.480a	11.300		
HELICOPTER	2.50	11.000f	0.000	14.300		
ROCKETE EQUIPMENT	0.90	0.700a	5.600a	9.000		
Total Fixed	1,689.97	2.480a	0.089a	8.543		
Load	Spce	Weight (MT)	LCG	TCG	VCG	Free
TK1_WB.F	0.200	1.025	16.61	13.076d	1.823p	16.81
TK2_PO.F	0.250	0.840	17.32	8.337f	1.449p	17.18
TK4_PO.F	0.280	0.840	24.65	4.091f	1.144p	27.25
TK4_PO.S	0.280	0.840	24.65	4.091f	1.142a	27.23
TK5_PO.F	1.000	0.840	34.66	0.465a	3.066p	0.00
TK5_PO.S	1.000	0.840	34.66	0.465a	3.066a	0.00
TK6_PO.F	0.280	0.840	24.13	7.348a	4.593p	29.60
TK6_PO.S	0.280	0.840	24.13	7.348a	4.586a	29.27
TK8_PO.F	0.280	0.840	27.71	21.907a	4.115p	35.63
TK8_PO.S	0.280	0.840	27.71	21.908a	4.109a	35.62
TK9_PO.F	0.280	0.840	23.84	26.095a	2.770p	57.56
TK9_PO.S	0.280	0.840	23.84	26.095a	2.758a	57.47
TK1_PH.F	0.280	1.000	18.36	17.367f	1.320p	6.67
TK1_PH.S	0.280	1.000	14.59	17.367f	1.471a	6.19
CPP_OIL.F	0.500	0.890	0.62	11.185a	0.907p	0.50
SLUDGE.S	0.223	1.000	0.77	11.099a	1.285a	0.89
SEWAGE.S	0.100	0.890	0.49	18.698a	5.295a	0.77
SCWTHSCMP.C	0.249	1.025	22.45	22.180f	0.002p	16.38
Flammability overrides	0.850					
TODAY.F	0.280	0.840	9.58	18.668a	3.501p	3.49
Total Tanks			448.97	3.852a	0.279p	2.103
Total Weight			2,138.94	2.867a	0.094p	5.688
Displ (MT)	LCG	TCG	VCG	Heel		
HULL	1.025	2,138.62	2.864a	0.012p	2.721	

Righting Arms: 0.000 0.000
Distances in METERS: 0.000 0.000

FREEBOARD STATUS

USK DRAFT: 4.125 @ 30.25t, 4.647 @ 24.53t
Trim: Aft 0.321/54.875, Heel: Port 0.17 deg.
Least freeboard is 7.910 m, located at 32.130a
Least EXIST freeboard (to margin line) is 2.840 m, located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CGCS JOHN P. Tully
NO.201 - COMPT 73-91 @ 2.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.321/54.875, Heel: Port 0.17 deg., VCG = 5.695

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
Draft: Weight (MT) LCG VCG LCF VCG LCF VCG LCF VCG LCF VCG
4.537 2,138.62 2.864a 2.731 7.10 5.682a 29.36 75.32 1.331
Distances in METERS: Specific Gravity = 1.025, Moment in m.-MT.
Trim is per 54.68m.
Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs REEL ANGLE

Total CG: LCG = 3.867a TCG = 0.004p VCG = 5.695
Free Surface Adjustment: 0.172
Adjusted CG: LCG = 2.868a TCG = 0.004p VCG = 5.868

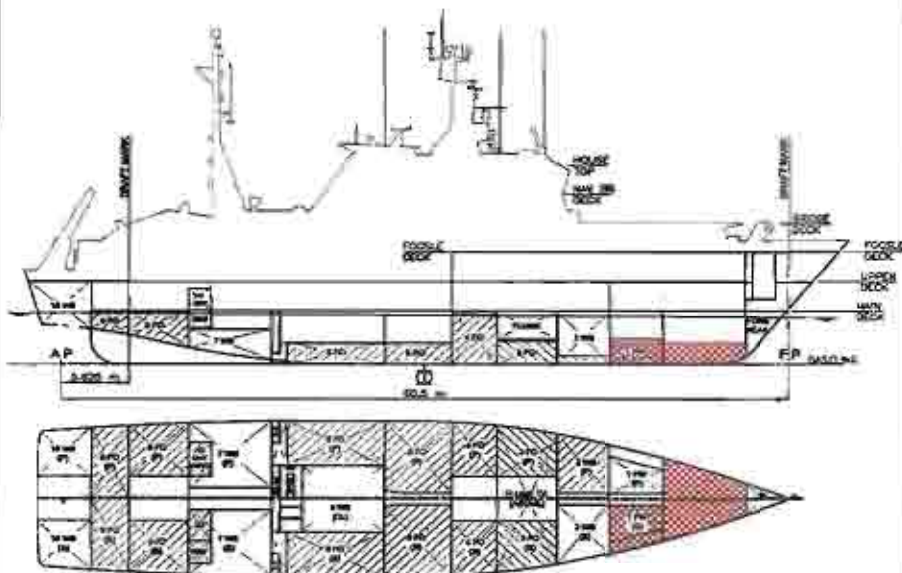
Depth	Trim	Heel	Displacement	Righting Arms	Flood Pt
Depth	Trim	Heel	Weight (MT)	In Trim	In Heel
4.489	0.344a	0.17p	2,139.23	0.000	0.000
4.489	0.344a	2.67p	2,138.76	0.000	0.058
4.489	0.344a	5.17p	2,138.52	0.000	0.117
4.439	0.324a	7.67p	2,138.94	0.000	0.176
4.401	0.299a	10.17p	2,138.94	0.000	0.235
4.352	0.269a	12.67p	2,138.94	0.000	0.295
4.293	0.239a	15.17p	2,138.94	0.000	0.357
4.218	0.189a	17.67p	2,138.94	0.000	0.421
4.134	0.139a	20.17p	2,138.94	0.000	0.488
4.036	0.089a	22.67p	2,138.94	0.000	0.556
3.960	0.039a	24.17p	2,138.94	0.000	0.601
3.923	0.012f	25.67p	2,138.94	0.000	0.622
3.797	0.072f	27.67p	2,138.35	0.000	0.676
3.660	0.112f	30.17p	2,138.95	0.000	0.709
3.513	0.139f	32.67p	2,139.06	0.000	0.727
3.356	0.126f	35.17p	2,139.02	0.000	0.734
3.281	0.111f	36.30p	2,138.94	0.000	0.735
3.189	0.097f	37.67p	2,139.43	0.000	0.734
3.011	0.057f	40.17p	2,138.98	0.000	0.729
2.824	0.019a	42.67p	2,138.96	0.000	0.721
2.630	0.10a	45.17p	2,138.91	0.000	0.708
2.442	0.28a	47.53p	2,138.96	0.000	0.697

Distances in METERS: Specific Gravity = 1.025, Area in m.-Rad.

Note: The Weight and Center of Gravity used for the righting arms shown include tank loads. However, the tank load centers were NOT ADJUSTED TO SHIFT with heel and trim changes. Rather, a constant Free Surface Moment of 368.6 m.-MT was applied to artificially modify the CG.

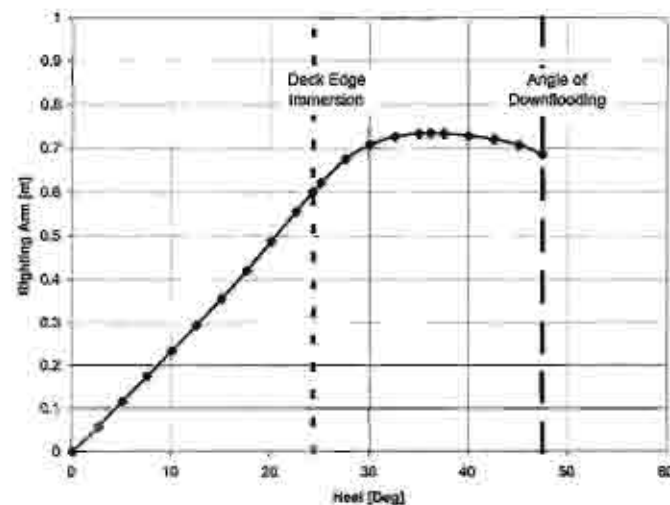
Critical Point: LCF VCG LCF VCG LCF VCG
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300

Damage Case No.201 - Comp 73-91 @ 2.0 m



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.201 - Comp 73-91 @ 2.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) Gm at Equilibrium	>	0.050 m	1.131 #
(2) Absolute Angle at Equilibrium	<	15.00 deg	0.17 #
(3) Absolute Angle at Deck/Margin Immersion	>	0.00 deg	24.37 #

01/21/09 08:51:40 STX Canada Marine, Inc.
CDS JOHN P. Tully
NO. 202 - COMPT 12-01 & 3.00 - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USE DRAFT draft: 4.489 & 30.252, 4.408 & 24.430
Trim: Aft 0.119/34.875, Heel: Port 0.07 deg.

Part	Weight (MT)	LCB	TCB	VCG			
LIGHT SHIP	1,494.60	2.595a	0.045a	5.457			
AFT STORES	5.00	22.350a	1.330p	8.556			
FW STORES	3.00	30.000a	0.000	8.900			
Galley Stores	14.00	30.280a	0.000	6.000			
Gas in Jettableable To	0.58	20.250a	2.100p	11.000			
40 Crew and Effects & 120	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490a	0.000a	8.130			
UPPER DECK CONTAINER	4.35	26.100a	1.650p	8.001			
POCBL DECK MACHINERY	8.98	8.320a	4.670a	12.000			
POCBL DECK CONTAINER	3.58	14.350a	5.480a	11.300			
HELICOPTER	2.50	21.000a	0.000	14.300			
ROSETTE EQUIPMENT	0.90	0.700a	5.800a	9.000			
Total Fixed	1,489.97	2.413a	0.083a	6.543			
	Load	SpG	Weight (MT)	LCB	TCB	VCG	FSN
TK3_H.F	0.200	1.025	16.61	12.082a	1.820p	1.013	18.73
TK3_F0.P	0.950	0.840	17.32	8.342a	3.447p	1.502	17.08
TK4_F0.W	0.880	0.840	54.65	4.092a	4.145p	2.388	27.28
TK4_F0.S	0.980	0.840	54.85	4.092a	4.144a	2.388	27.24
TK5_F0.P	1.000	0.840	34.66	0.465a	3.540p	1.268	0.00
TK5_F0.S	1.000	0.840	34.66	0.465a	3.540a	1.268	0.00
TK6_F0.P	0.980	0.840	24.13	7.323a	4.591p	1.460	33.80
TK6_F0.S	0.980	0.840	24.13	7.323a	4.588a	1.460	33.77
TK6_F0.F	0.980	0.840	37.71	21.804a	4.113p	3.829	35.64
TK6_F0.S	0.980	0.840	37.71	21.804a	4.111a	3.829	35.63
TK9_F0.P	0.980	0.840	23.84	26.093a	2.788p	4.095	27.53
TK9_F0.S	0.980	0.840	23.84	26.093a	2.760p	4.095	27.49
TK1_F0.P	0.980	1.004	16.56	17.371a	1.515p	1.324	6.88
TK1_F0.S	1.000	1.025	17.22	17.374a	1.533a	1.340	0.00
CRP_G2L.P	0.500	0.890	0.65	11.184a	0.900p	0.435	0.50
SLUDGE.S	0.221	1.000	0.77	11.094a	1.208a	0.404	0.91
SEWAGE.S	0.100	0.890	0.49	18.891a	5.298a	2.288	0.73
BOWTHRCOMP.C	0.434	1.025	41.40	22.108a	0.101	1.605	28.83
Permeability overboard	0.650						
PODAP.F	0.980	0.840	3.53	18.618a	3.500p	3.929	3.48
Total Tare			470.66	2.474a	0.220p	2.503	188.32
Total Weight			2,160.63	2.618a	0.302p	2.643	
			Weight (MT)	LCB	TCB	VCG	FSN
Heel	1.025		2,162.54	2.625a	0.305p	2.748	-0.541
Righting Arm				0.000	0.000		
Distances in METERS							

WEIGHT and DISPLACEMENT STATUS
USE DRAFT draft: 4.489 & 30.252, 4.408 & 24.430
Trim: Aft 0.119/34.875, Heel: Port 0.07 deg.

Least freeboard is 2.948 m. located at 30.130a
Least extra freeboard (no margin line) is 2.919 m. located at 32.130a

01/21/09 08:51:40 STX Canada Marine, Inc.
CDS JOHN P. Tully
NO. 202 - COMPT 12-01 & 3.00 - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 0.119/34.875, Heel: Port 0.07 deg., VCG = 5.683

LCF	Displacement	Buoyancy-CG	Weight/	Moment/				
Draft	Weight (MT)	LCB	VCG	CG	LCF	CG trim	CGL	CGT
4.507	2,160.54	2.422a	2.748	7.12	5.578a	29.58	75.12	1.336
Distances in METERS								
Specific Gravity = 1.025								
Trim in per 31.60m								
Draft is from USE DRAFT								
True Free Surface included								

RIGHTING ARM vs HEEL ANGLE
Total CG: LCB = 2.618a, VCG = 0.302p, VCG = 5.683
Free Surface Adjustment: 0.178
Adjusted CG: LCB = 2.613a, VCG = 0.302p, VCG = 5.841

Origin	Degrees of Displacement			Righting Arm			Flood To
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Height
4.541	0.12a	9.07p	2,160.59	0.000	0.000	0.0000	6.734(1)
4.535	0.12a	2.57p	2,160.40	0.000	0.088	0.0213	6.624(1)
4.518	0.12a	3.07p	2,160.19	0.000	0.117	0.0250	6.504(1)
4.481	0.10a	7.57p	2,160.63	0.000	0.178	0.0119	5.775(1)
4.453	0.08a	10.07p	2,160.63	0.000	0.235	0.0205	5.432(1)
4.407	0.05a	12.57p	2,160.83	0.000	0.295	0.0320	5.097(1)
4.341	0.01a	15.07p	2,160.63	0.000	0.366	0.0462	4.749(1)
4.268	0.02a	17.57p	2,160.63	0.000	0.420	0.0631	4.396(1)
4.183	0.03a	20.07p	2,160.63	0.000	0.487	0.0829	4.041(1)
4.084	0.15a	22.57p	2,160.63	0.000	0.558	0.1057	3.683(1)
4.020	0.18a	24.02p	2,160.63	0.000	0.596	0.1203	3.323(1)
3.971	0.21a	25.07p	2,160.63	0.000	0.624	0.1316	3.071(1)
3.944	0.27a	27.07p	2,160.64	0.000	0.680	0.1599	2.970(1)
3.707	0.31a	30.07p	2,160.83	0.000	0.717	0.1804	2.807(1)
3.589	0.32a	32.57p	2,160.76	0.000	0.739	0.2223	2.629(1)
3.401	0.31a	35.07p	2,160.70	0.000	0.749	0.2547	2.447(1)
3.252	0.29a	37.57p	2,160.78	0.000	0.752	0.2875	2.287(1)
3.189	0.28a	38.18p	2,160.80	0.000	0.752	0.2937	2.140(1)
3.058	0.24a	40.07p	2,161.89	0.000	0.750	0.3503	1.919(1)
2.867	0.17a	42.57p	2,160.57	0.000	0.745	0.3629	1.744(1)
1.672	0.09a	45.07p	2,160.71	0.000	0.732	0.3850	1.586(1)
1.481	0.01a	47.47p	2,160.64	0.000	0.712	0.4155	1.435(1)
Distances in METERS							
Specific Gravity = 1.025							

Note: The weight and Center of Gravity used for the righting arm 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 384.5 m.-MT was applied to artificially modify the CG.

Critical Point: LCB = 2.618a, VCG = 0.302p, VCG = 5.683
iii CAPTAIN'S ROOM WINDOW FLOOD 2.830a 2.000 11.300

Figure 1 consists of two diagrams illustrating the damage to a ship's hull. The top diagram is a longitudinal section, showing the internal structure and damage. The bottom diagram is a cross-section, showing the internal structure and damage. Both diagrams include labels for various components and damage areas.

NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.202 - Comp 73-91 @ 3.0 m

Heel [Deg]	Righting Arm [m]
0	0.00
2	0.05
4	0.10
6	0.15
8	0.20
10	0.25
12	0.30
14	0.35
16	0.40
18	0.45
20	0.50
22	0.55
24	0.60
25	0.62
26	0.64
28	0.68
30	0.72
32	0.74
34	0.75
36	0.75
38	0.75
40	0.74
42	0.73
44	0.72
46	0.71
48	0.70

DYNAMIC STABILITY CRITERIA-----Min/Max-----Attained			
RM at Equilibrium	±	0.050	g. 2.334
Absolute Angle at Equilibrium	±	15.00	deg 0.07
Absolute Angle at Test/Emerg Immersion	±	0.00	deg 24.92

01/30/09 09:54:44 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.203 - COMPT 73-91 @ 4.0M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS

USK DRAFT draft: 4.667 @ 30.25t, 4.564 @ 24.63t
Trim: Fwd 0.103/54.875, Heel: Port 0.07 deg.

Part	Weight (MT)		LCG	TCG	VCG		
LIGHT SHIP	1,624.60	2.395e	0.048e	6.457			
AFT STORES	5.00	22.350e	1.330p	6.556			
FWO STORES	3.00	30.000e	0.000	8.500			
Galley Stores	14.00	20.250e	0.000	6.000			
Gas in Jettisonable VA	0.68	20.250e	8.100p	11.000			
40 Crew and Effects @ 125	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490e	0.050p	8.130			
UPPER DECK CONTAINER	4.35	26.100e	4.650p	8.600			
POCSLE DECK MACHINERY	8.90	8.320e	4.670e	11.000			
POCSLE DECK CONTAINER	3.96	14.950e	5.460e	11.300			
HELICOPTER	2.50	21.000e	0.000	14.300			
ROSETTE EQUIPMENT	0.90	0.700e	5.600e	9.000			
Total Fixed	1,699.97	2.659e	0.069e	6.543			
	Load	spGs	Height (MT)	LCG	TCG	VCG	PSM
TK2_WB.P	0.200	1.025	16.61	13.086e	1.825p	1.019	16.71
TK3_PO.P	0.250	0.840	17.32	8.350e	3.446p	1.502	17.08
TK4_PO.P	0.980	0.840	54.65	0.094e	4.145p	2.885	27.25
TK4_PO.S	0.980	0.840	54.65	0.094e	4.144e	2.885	27.24
TK5_PO.P	1.000	0.840	34.66	0.465e	3.066p	1.248	0.00
TK5_PO.S	1.000	0.840	34.66	0.465e	3.066e	1.248	0.00
TK5_PO.P	0.980	0.840	24.13	7.305e	4.592p	1.460	33.80
TK5_PO.S	0.980	0.840	24.13	7.305e	4.598e	1.460	33.76
TK6_PO.P	0.980	0.840	37.71	21.899e	4.113p	3.829	35.64
TK6_PO.S	0.980	0.840	37.71	21.899e	4.111e	3.829	35.63
TK9_PO.P	0.980	0.840	23.84	26.090e	2.766p	4.095	57.52
TK9_PO.S	0.980	0.840	23.84	26.090e	2.760e	4.095	57.49
TK1_PN.P	0.980	1.000	16.56	17.375e	1.518p	1.322	6.85
TK1_PN.S	1.000	1.025	17.32	17.374e	1.524e	1.340	0.00
CFF_OIL.P	0.500	0.890	0.62	11.184e	0.906p	0.435	0.50
SLUDGE.S	0.223	1.000	0.77	11.089e	1.288e	0.404	0.91
SEWAGE.S	0.100	0.890	0.49	18.684e	5.298e	3.285	0.77
BOWTHRCOMP.C	0.718	1.025	64.83	22.398e	0.001	2.425	51.0e
Permeability override:	0.850						
FOGAY.P	0.980	0.840	9.58	18.687e	3.500p	5.929	3.49
Total Tanks			491.10	1.283e	0.242p	2.551	405.66
Total Weight			2,194.07	2.347e	0.002p	5.610	
			Displ (MT)	LCG	TCG	VCG	RefH
HULL	1.025		2,183.96	2.342e	0.005p	2.768	-4.596

Righting Arms: 0.000 3.000
Distances in METERS: Moments in m.-MT.

FREEBOARD STATUS

USK DRAFT draft: 4.667 @ 30.25t, 4.564 @ 24.63t
Trim: Fwd 0.103/54.875, Heel: Port 0.07 deg.
Least freeboard is 3.008 m. located at 1.000t
Least extra freeboard (to margin line) is 2.932 m. located at 1.000t

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.203 - COMPT 73-91 @ 4.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Fwd 0.103/54.875, Heel: Port 0.07 deg., VCG = 5.640

LCF	Displacement	Buoyancy-Ctr.	Weight/	Moment/		
Draft	Weight (MT)	LCB	VCB	cm trim	GML	GNT
4.600	2,183.96	2.342e	2.768	7.14	5.458e	29.82 74.92 1.328
Distances in METERS. Specific Gravity = 1.025. Moment in m.-MT.						
Trim is per 54.88m.						

Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 2.347e TCG = 0.002p VCG = 5.640

Free Surface Adjustment: 0.185

Adjusted CG: LCG = 2.347e TCG = 0.002p VCG = 5.826

Origin	Degrees of	Displacement	Righting Arms	Flood Pt			
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Height
4.596	0.11E	0.07p	2,183.96	0.000	0.000	0.0000	6.710(1)
4.590	0.11E	2.57p	2,184.07	0.000	0.058	0.0013	6.400(1)
4.573	0.12E	5.07p	2,183.59	0.000	0.116	0.0051	6.081(1)
4.545	0.13E	7.57p	2,184.07	0.000	0.174	0.0114	5.752(1)
4.506	0.15E	10.07p	2,184.07	0.000	0.232	0.0203	5.417(1)
4.495	0.18E	12.57p	2,184.07	0.000	0.292	0.0317	5.075(1)
4.393	0.22E	15.07p	2,184.07	0.000	0.353	0.0458	4.729(1)
4.318	0.26E	17.57p	2,184.07	0.000	0.416	0.0625	4.377(1)
4.232	0.31E	20.07p	2,184.07	0.000	0.483	0.0821	4.022(1)
4.132	0.37E	22.57p	2,184.07	0.000	0.552	0.1047	3.666(1)
4.086	0.39E	23.60p	2,184.07	0.000	0.581	0.1150	Margin
4.017	0.43E	25.07p	2,184.07	0.000	0.620	0.1303	3.310(1)
3.889	0.49E	27.57p	2,184.07	0.000	0.679	0.1587	2.954(1)
3.750	0.52E	30.07p	2,184.07	0.000	0.718	0.1892	2.592(1)
3.601	0.54E	32.57p	2,183.80	0.000	0.743	0.2212	2.226(1)
3.442	0.53E	35.07p	2,184.15	0.000	0.756	0.2539	1.856(1)
3.272	0.50E	37.57p	2,184.18	0.000	0.762	0.2870	1.483(1)
3.163	0.47E	39.10p	2,184.64	0.000	0.763	0.3074	1.255(1)
3.092	0.45E	40.07p	2,184.21	0.000	0.762	0.3202	1.109(1)
2.903	0.38E	42.57p	2,183.90	0.000	0.760	0.3535	0.735(1)
2.708	0.30E	45.07p	2,184.10	0.000	0.748	0.3864	0.357(1)
2.522	0.22E	47.41p	2,184.07	0.000	0.728	0.4166	-0.000(1)

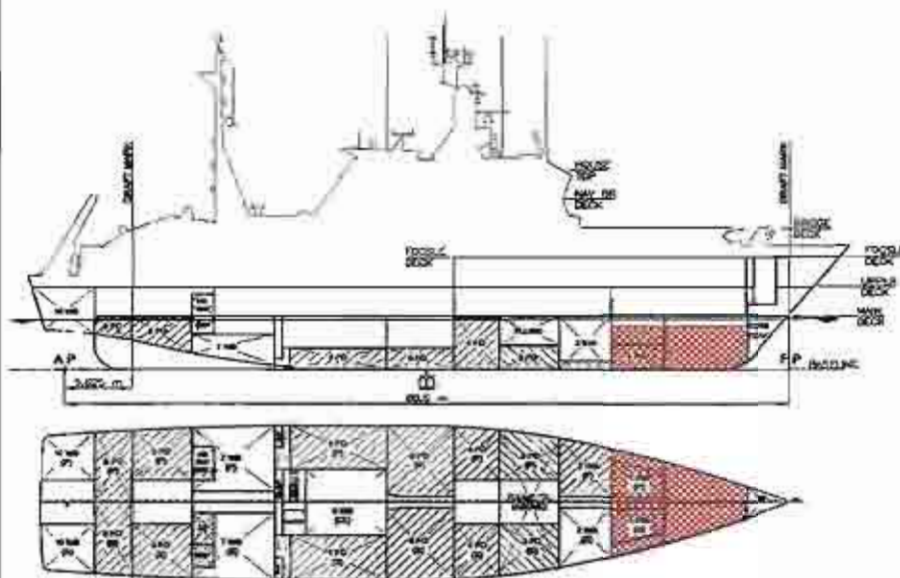
Distances in METERS ----- Specific Gravity = 1.025 ----- Area in m. - Rad.

Distances in METERS. Specific Gravity = 1.025. Area in m.-Rad.

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 405.7 m.-MT was applied to artificially modify the CG.

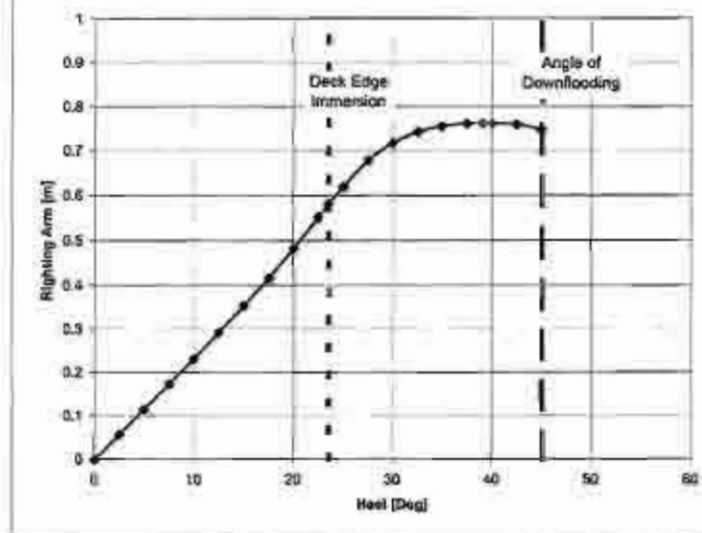
Critical Point: LCP: TCP: VCP
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630e 7.000 11.300

Damage Case No.203 - Comp 73-91 @ 4.0 m



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.203 - Comp 73-91 @ 4.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) GM at Equilibrium	>	0.050 m.	1.328 m
(2) Absolute Angle at Equilibrium	<	15.00 deg	0.07 deg
(3) Absolute Angle at Deck/margin Immersion	>	0.00 deg	23.60 deg

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.204 - COMPT 73-91 @ 4.9M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 4.828 @ 30.25t, 4.523 @ 24.63a
Trim: Fwd 0.305/54.875, Heel: Port 0.06 deg.

Part			Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP			1,624.60	2.595a	0.048s	6.457	
AFT STORES			5.00	22.350a	1.330p	6.556	
FWD STORES			3.00	30.000f	0.000	8.500	
Galley Stores			14.00	20.250f	0.000	6.000	
Gas in Jettisonable TX			0.68	20.250a	6.100p	11.000	
40 Crew and Effects @ 125			5.00	0.000	0.000	11.000	
UPPER DECK MACHINERY			17.10	19.490a	0.050s	8.130	
UPPER DECK CONTAINER			4.35	26.100a	4.650p	8.600	
POCSLE DECK MACHINERY			8.98	8.320a	4.670a	11.000	
POCSLE DECK CONTAINER			3.86	14.350a	5.480a	11.300	
HELICOPTER			2.50	21.000f	0.000	14.300	
ROSETTE EQUIPMENT			0.80	0.700a	5.600a	9.000	
Total Fixed----->			1,689.97	2.839a	0.089s	6.543	
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	PSM
TK2_RB.F	0.200	1.025	16.61	13.093f	1.824p	1.019	16.68
TK3_FO.F	0.950	0.840	17.32	6.357f	3.445p	1.502	17.08
TK4_FO.F	0.980	0.840	54.65	4.095f	4.145p	2.385	27.25
TK4_FO.S	0.980	0.840	54.65	4.095f	4.144a	2.885	27.24
TK5_FO.F	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK5_FO.S	1.000	0.840	34.66	0.465a	3.066a	1.248	0.00
TK6_FO.F	0.980	0.840	24.13	7.284a	4.591p	1.460	29.57
TK6_FO.S	0.980	0.840	24.13	7.284a	4.588a	1.460	29.60
TK8_FO.F	0.980	0.840	37.71	21.895a	4.113p	3.829	35.63
TK8_FO.S	0.980	0.840	37.71	21.895a	4.111p	3.829	35.62
TK9_FO.F	0.980	0.840	23.85	26.088a	2.766p	4.095	57.52
TK9_FO.S	0.980	0.840	23.85	26.088a	2.761a	4.095	57.49
TK1_FW.F	0.980	1.000	16.56	17.379f	1.517p	1.322	6.88
CPP_OIL.F	0.500	0.890	0.62	11.184a	0.906p	0.435	0.56
SLUDGE.S	0.225	1.000	0.77	11.084a	1.289a	0.404	0.91
SEWAGE.S	0.100	0.990	0.49	18.676a	5.298a	3.285	0.77
FOOAY.F	0.980	0.840	9.58	18.687a	3.500p	5.929	3.69
Total Tanks----->			411.95	5.790a	0.354p	2.622	346.19
Total Weight----->			2,101.92	3.272a	0.014p	5.775	
			Displ (MT)	LCG	TCG	VCG	Refmt
HULL		1.025	2,205.53	2.086a	0.005p	2.787	-4.646
TK1_FW.S	Flooded	1.025	-17.32	17.379f	1.524a	1.340	-4.648
ROTHRCOMP.C	Flooded	1.025	-86.39	22.461f	0.001p	2.918	-4.846
Total Displacement-->		1.025	2,101.82	3.256a	0.018p	2.793	
Righting Arms:				0.000	0.000		
Distances in METERS						Moments in m.-MT	

FREEBOARD STATUS

USK DRAFT draft: 4.828 @ 30.25t, 4.523 @ 24.63a
Trim: Fwd 0.305/54.875, Heel: Port 0.06 deg.
Least freeboard is 2.934 m. located at 1.000f
Least extra freeboard (to margin line) is 2.879 m. located at 1.000f

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.204 - COMPT 73-91 @ 4.9M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES with FLOODING
Trim: Fwd 0.305/54.875, Heel: Port 0.06 deg., VCG = 5.775

LCF	Displacement	Buoyancy-Ctr.	Weight/	Moment/				
Draft	Weight (MT)	LCB	VCB	cm	LCF	cm trim	GML	GMT
4.623	2,101.82	3.256a	2.793	6.85	6.570a	25.54	66.65	1.377
Distances in METERS		Specific Gravity = 1.025		Moment in m.-MT.				
				Trim is per 34.88m.				
Draft is from USK DRAFT				True Free Surface included.				

Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE with FLOODING

Total CG: LCG = 3.272a TCG = 0.014p VCG = 5.775

Free Surface Adjustment: 0.165

Adjusted CG: LCG = 3.271a TCG = 0.014p VCG = 5.939

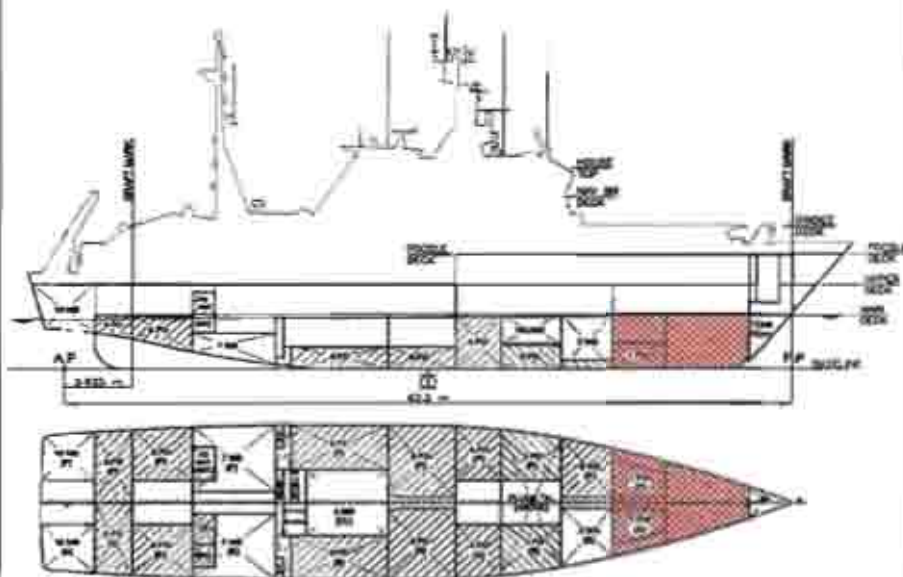
Origin	Degrees of	Displacement	Righting Arms	Flood Pt	
Depth	Trim	Heel	Weight (MT)	Area	Weight
4.646	0.32f	0.06p	2,101.82	0.000	0.000
4.641	0.32f	2.56p	2,101.91	0.000	0.060
4.622	0.33f	5.06p	2,101.92	0.000	0.121
4.592	0.34f	7.56p	2,101.92	0.000	0.182
4.550	0.35f	10.06p	2,101.92	0.000	0.243
4.497	0.37f	12.56p	2,101.92	0.000	0.305
4.432	0.40f	15.06p	2,101.92	0.000	0.369
4.355	0.44f	17.56p	2,101.92	0.000	0.436
4.266	0.48f	20.06p	2,101.92	0.000	0.507
4.183	0.52f	22.56p	2,101.92	0.000	0.579
4.129	0.53f	23.35p	2,101.92	0.000	0.602
4.046	0.57f	25.06p	2,101.93	0.000	0.652
3.915	0.61f	27.56p	2,101.92	0.000	0.714
3.773	0.64f	30.06p	2,101.92	0.000	0.757
3.621	0.69f	32.56p	2,101.93	0.000	0.784
3.458	0.71f	35.06p	2,102.19	0.000	0.798
3.284	0.76f	37.56p	2,102.18	0.000	0.803
3.253	0.55f	37.98p	2,101.92	0.000	0.803
3.099	0.49f	40.06p	2,101.92	0.000	0.801
2.904	0.39f	42.56p	2,102.21	0.000	0.793
2.703	0.27f	45.06p	2,102.20	0.000	0.775
2.501	0.16f	47.44p	2,101.90	0.000	0.746

Distances in METERS. Specific Gravity = 1.025. Area in m.-Rad.

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 346.2 m.-MT was applied to artificially modify the CG.

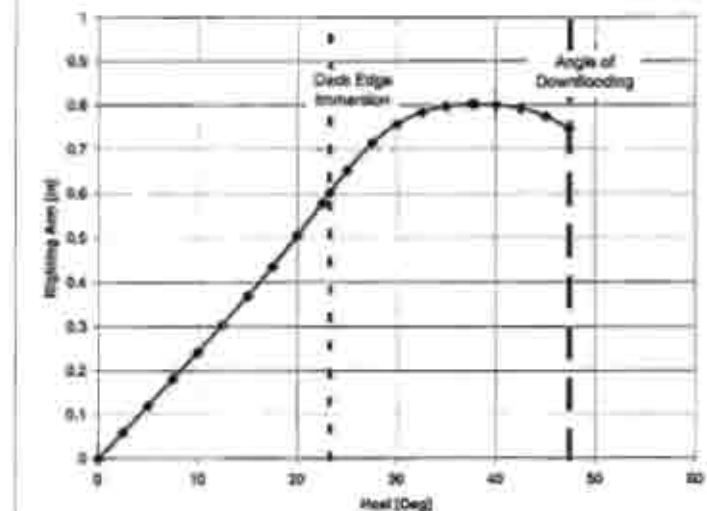
Critical Point	LCB	TCB	VCB
(1) CAPTAIN'S ROOM WINDOW FLOOD	7.630a	7.000	11.300

Damage Case No.204 - Comp 73-91 @ 4.9 m



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.204 - Comp 73-91 @ 4.9 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) GM at Equilibrium	>	0.050 m	1.577 m
(2) Absolute Angle at Equilibrium	<	15.00 deg	0.04 deg
(3) Absolute Angle at Deck/Edge Immersion	>	0.00 deg	23.33 deg

01/30/09 09:54:44 STX Canada Marine, Inc.
GNS 11.50 CCGS JOHN P. Tully
NO.300 - COMPT 52-66 @ 1.0M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 2.996 @ 30.25f, 4.670 @ 24.63a
Trim: Aft 0.672/54.875, Heel: Port 4.18 deg.

Part			Weight (MT)	LCG	TCG	VCG		
LIGHT SHIP			1,424.60	2.595a	0.348a	8.457		
AFT STORES			5.00	22.350a	1.330p	6.558		
FWD STORES			3.00	30.000a	0.000	8.500		
Galley Stores			14.00	20.250f	0.000	5.000		
Gas in Jettisonable TK			0.68	20.250a	6.100p	11.000		
40 Crew and Effects @ 125			5.00	0.000	0.000	11.000		
UPPER DECK MACHINERY			17.10	19.490a	0.050a	8.130		
UPPER DECK CONTAINER			4.35	26.100a	4.650p	8.600		
POCSIS DECK MACHINERY			8.98	8.320a	4.670a	11.000		
POCSIS DECK CONTAINER			3.86	14.350a	5.480a	11.300		
HELICOPTER			2.50	21.000f	0.000	14.300		
ROSETTE EQUIPMENT			0.30	0.700a	5.600a	9.000		
Total Fixed----->			1,689.97	2.659a	0.069a	8.543		
	Load----->	SpGr----->	Weight (MT)	LCG	TCG	VCG		FSM
TK2_WB.F	0.200	1.025	16.53	13.050f	1.908p	1.023		19.05
TK3_FO.F	0.950	0.840	17.32	8.326f	3.498p	1.503		5.47
TK3_FO.S	0.158	1.025	3.32	8.312f	2.636a	0.765		2.67
TK4_FO.F	0.980	0.840	54.66	4.090f	4.171p	2.886		8.11
TK4_FO.S	0.050	1.025	3.43	4.042f	2.751a	0.762		3.62
TK5_FO.F	1.000	0.840	34.66	0.465a	3.066p	1.248		0.00
TK5_FO.S	1.000	0.840	34.66	0.465a	3.066p	1.248		0.00
TK6_FO.F	0.980	0.840	24.12	7.341a	4.619p	1.461		2.12
TK6_FO.S	0.980	0.840	24.12	7.341a	4.569a	1.461		2.03
TK8_FO.F	0.980	0.840	37.71	21.907a	4.145p	1.830		4.21
TK8_FO.S	0.980	0.840	37.71	21.908a	4.080a	3.830		4.15
TK9_FO.F	0.980	0.840	23.84	26.094a	2.814p	4.096		2.64
TK9_FO.S	0.980	0.840	23.84	26.095a	2.713a	4.096		2.56
TK1_FW.F	0.380	1.000	16.56	17.365f	1.534p	1.322		1.23
TK1_FW.S	0.980	1.000	16.57	17.375a	1.501a	1.322		1.56
CP#_CIL.F	0.500	0.890	9.62	11.185a	0.966p	0.437		0.51
SLUDGE.S	0.223	1.000	0.77	11.117a	1.217a	0.407		0.61
SEWAGE.S	0.100	0.890	0.49	15.709a	5.184a	1.289		0.78
PODAY.F	0.980	0.840	9.58	18.889a	3.518p	5.929		0.85
Total Tanks----->			380.82	9.992a	0.891p	2.495		62.16
Total Weight----->			2,070.79	3.272a	0.108p	9.799		
			Displ (MT)	LCB	TCB	VCB		RefM
HULL	1.025		2,070.79	3.310a	0.335p	2.691		-4.347
Righting Arms:				0.000	0.005p			
Distances in METERS----->				Moments in m.-MT				

FREEBOARD STATUS

USK DRAFT draft: 3.996 @ 30.25f, 4.670 @ 24.63a
Trim: Aft 0.672/54.875, Heel: Port 4.18 deg.
Least freeboard is 2.360 m. located at 32.130a
Least extra freeboard (to margin line) is 2.284 m. located at 32.130a

01/21/09 08:55:40 STX Canada Marine, Inc.
GNS 11.50 CCGS JOHN P. Tully
NO.300 - COMPT 52-66 @ 1.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 0.672/54.875, Heel: Port 4.18 deg., VCG = 5.795

LCF	Displacement	Buoyancy-Ctr.	Weight/	Moment/				
Draft	Weight (MT)	LCB	VCB	LCF	cm trim	GML	GMT	
4.435	2,070.79	3.310a	2.691	7.07	5.800a	28.75	76.19	8.866
Distances in METERS-----Specific Gravity = 1.025-----Moment in m.-MT.								
Trim is per 54.88m.								
Draft is from USK DRAFT.								
True Free Surface included.								

RIGHTING ARM vs HEEL ANGLE

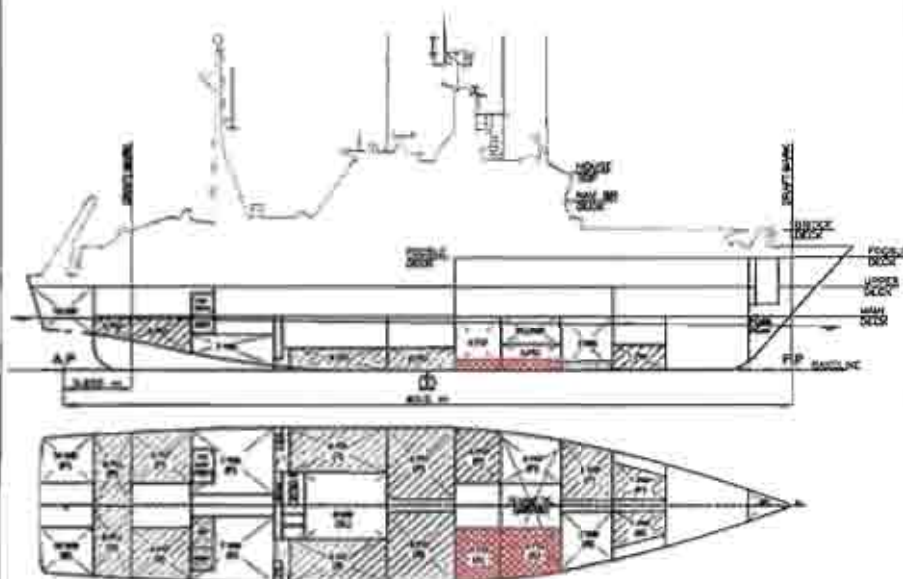
Total CG: LCG = 3.272a TCG = 0.108p VCG = 5.795
Free Surface Adjustment: 0.030
Adjusted CG: LCG = 3.273a TCG = 0.106p VCG = 5.828

Origin	Degrees of		Displacement	Righting Arms		Flood Pt.	
Depth	Trim	Heel	Weight (MT)	In Trim	In Heel	Area	Height
4.342	0.70a	4.18p	2,071.13	0.000	0.000	0.0000	6.324(1)
4.315	0.65a	6.68p	2,070.79	0.000	0.064	0.0014	5.998(1)
4.287	0.67a	9.18p	2,070.79	0.000	0.129	0.0056	5.662(1)
4.243	0.64a	11.58p	2,070.79	0.000	0.194	0.0126	5.320(1)
4.189	0.61a	14.18p	2,070.79	0.000	0.261	0.0228	4.972(1)
4.123	0.56a	16.68p	2,070.79	0.000	0.329	0.0354	4.619(1)
4.046	0.50a	19.18p	2,070.79	0.000	0.400	0.0513	4.262(1)
3.955	0.43a	21.68p	2,070.79	0.000	0.472	0.0704	3.903(1)
3.851	0.35a	24.18p	2,070.75	0.000	0.542	0.0925	3.545(1)
3.841	0.34a	24.38p	2,070.79	0.000	0.547	0.0945	3.545(1)
3.730	0.27a	26.68p	2,070.80	0.000	0.604	0.1175	3.138(1)
3.599	0.22a	29.18p	2,070.79	0.000	0.647	0.1448	2.826(1)
3.457	0.19a	31.68p	2,070.74	0.000	0.671	0.1735	2.460(1)
3.304	0.17a	34.18p	2,070.92	0.000	0.683	0.2031	2.089(1)
3.142	0.18a	36.68p	2,071.02	0.000	0.687	0.2331	1.715(1)
2.970	0.15a	39.18p	2,070.79	0.000	0.687	0.2634	1.341(1)
2.970	0.21a	39.18p	2,071.10	0.000	0.684	0.2630	1.340(1)
2.788	0.26a	41.68p	2,070.58	0.000	0.678	0.2927	0.963(1)
2.597	0.32a	44.18p	2,070.66	0.000	0.670	0.3221	0.587(1)
2.399	0.40a	46.68p	2,070.59	0.000	0.637	0.3511	0.209(1)
2.289	0.45a	48.05p	2,071.23	0.000	0.606	0.3667	-0.001(1)
Distances in METERS-----Specific Gravity = 1.025-----Area in m.-Rad.							

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 62.2 m.-MT was applied to artificially modify the CG.

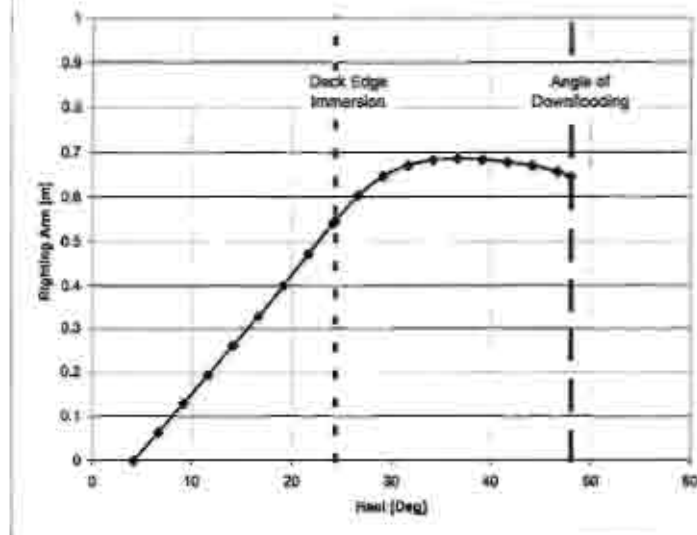
Critical Point-----LCB-----TCG-----VCG
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.800 11.300

Damage Case No.300 - Comp 52-66 @ 1.0 m



NOTE: Helicopter included in mass (not depicted in diagram above).

Damage Case No.300 - Comp 52-66 @ 1.0 m



DAMAGE STABILITY CRITERIA			
	Min/Max		Attained
(1) Gt at Equilibrium	> 0.050	m	1.466 P
(2) Absolute Angle at Equilibrium	< 15.00	deg	4.18 P
(3) Absolute Angle at Deck/margin immersion	> 0.00	deg	24.38 P

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.301 - COMPT 52-66 @ 2.25M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 4.151 @ 30.25f, 4.674 @ 24.63a
Trim: Aft 0.522/54.875, Heel: Port 1.39 deg.

Part		Weight (MT)	LCG	TCG	VCG		
LIGHT SHIP		1,624.60	7.595a	0.048a	6.457		
APT STORES		5.00	22.350a	1.330p	6.556		
PRO STORES		3.00	30.000f	0.000	8.500		
Galley Stores		14.00	20.250f	0.000	6.000		
Gas in Jettisonable TX		0.68	20.250a	6.100p	11.000		
40 Crew and Effects @ 125		5.00	0.000	0.000	11.000		
UPPER DECK MACHINERY		17.10	19.490a	0.050a	8.130		
UPPER DECK CONTAINER		4.35	26.100a	4.850p	8.800		
POCSLS DECK MACHINERY		8.98	8.320a	4.670a	11.000		
POCSLS DECK CONTAINER		3.86	14.350a	5.480a	11.300		
HELICOPTER		2.50	21.000f	0.000	14.300		
ROSETTE EQUIPMENT		0.90	0.700a	5.600a	9.000		
Total Fixed		1,699.97	2.659a	0.069a	6.543		
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	PSM
TK2_WB.P	0.200	1.025	16.61	13.066f	1.832p	1.019	17.47
TK3_PO.P	0.950	0.840	17.32	8.326f	3.471p	1.502	15.71
TK3_PO.S	1.000	1.025	22.25	8.348f	3.465a	1.538	0.00
TK4_PO.P	0.990	0.840	54.66	6.090f	5.157p	2.985	27.08
TK4_PO.S	0.322	1.025	21.94	4.073f	3.792a	1.532	28.22
TK5_PO.P	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK5_PO.S	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK6_PO.P	0.980	0.840	24.13	7.348a	4.410p	1.461	12.50
TK6_PO.S	0.980	0.840	24.12	7.349a	4.569p	1.480	12.48
TK8_PO.P	0.980	0.840	37.71	21.909a	4.133p	3.829	22.43
TK8_PO.S	0.980	0.840	37.71	21.910a	4.092a	3.829	22.04
TK9_PO.P	0.980	0.840	23.85	26.091a	2.802p	4.096	13.48
TK9_PO.S	0.980	0.840	23.85	26.095a	2.725a	4.096	13.33
TK1_FK.P	0.980	1.000	16.56	17.362f	1.528p	1.322	3.94
TK1_FK.S	0.980	1.000	16.56	17.368f	1.510a	1.322	5.57
CPP_OIL.P	0.500	0.890	0.62	11.185a	0.925p	0.435	0.50
SLUDGE.S	0.273	1.000	0.77	11.107a	1.261a	0.405	0.79
SEWAGE.S	0.100	0.890	0.49	18.704a	5.261a	3.285	0.77
PODAY.S	0.380	0.840	9.58	18.689a	3.509p	3.929	3.26
Total Tanks			418.04	4.910a	0.462p	2.422	199.60
Total Weight			2,108.02	3.105a	0.037p	5.726	
			Displ (MT)	LCG	TCG	VCG	RefHt
HULL		1.025	2,108.48	3.135a	0.110p	2.709	4.424
Righting Arms:				0.001a	0.000p		
Distances in METERS							Moments in m.-MT

FREEBOARD STATUS
USK DRAFT draft: 4.151 @ 30.25f, 4.674 @ 24.63a
Trim: Aft 0.522/54.875, Heel: Port 1.39 deg.
Least freeboard is 2.715 m. located at 32.130a
Least extra freeboard (to margin line) is 2.635 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.301 - COMPT 52-66 @ 2.25M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 0.522/54.875, Heel: Port 1.39 deg., VCG = 5.726

LCP Displacement Buoyancy-Ctr. Weight/ Moment/
Draft---Weight(MT)---LCB---VCB---cm---LCF---cm trim---GML---GMT
4.494 2,108.48 3.135a 2.709 7.08 5.776a 29.11 75.75 1.410
Distances in METERS.---Specific Gravity = 1.025.---Moment in m.-MT.
Trim is per 54.88m.

Draft is from USK DRAFT. True Free Surface included.

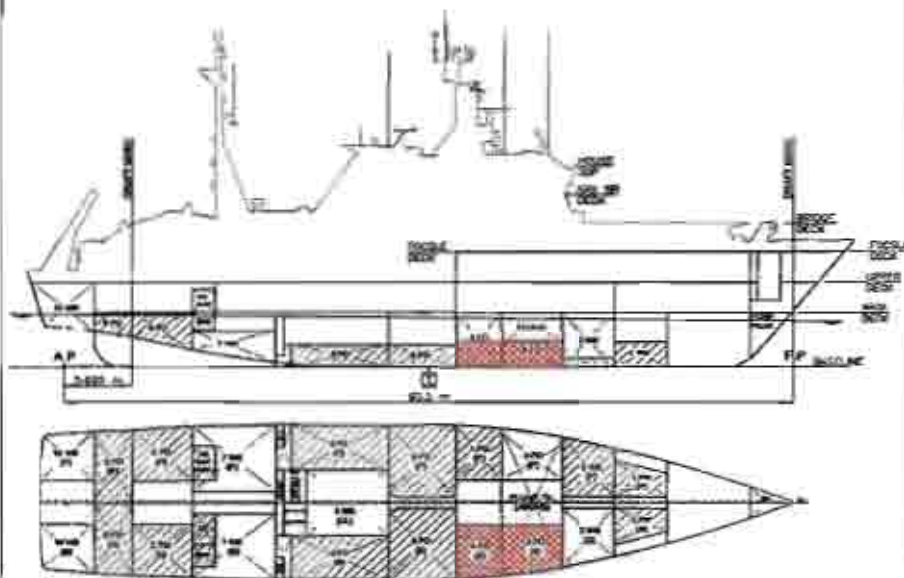
RIGHTING ARMS vs HEEL ANGLE
Total CG: LCG = 3.105a TCG = 0.037p VCG = 5.726
Free Surface Adjustment: 0.095
Adjusted CG: LCG = 3.106a TCG = 0.034p VCG = 5.820

Origin	Degrees of		Displacement	Righting Arms		Flood Ft	
Depth	Trim	Heel	Weight(MT)	In Trim	In Heel	Area	Height
4.424	0.55a	1.39p	2,108.35	0.000	0.000	0.000	6.630(1)
4.412	0.54a	3.89p	2,107.83	0.000	0.062	0.004	6.314(1)
4.391	0.53a	6.39p	2,108.02	0.000	0.125	0.004	5.988(1)
4.359	0.52a	8.89p	2,108.02	0.000	0.187	0.012	5.654(1)
4.316	0.49a	11.39p	2,108.01	0.000	0.251	0.018	5.313(1)
4.262	0.46a	13.89p	2,108.01	0.000	0.315	0.034	4.966(1)
4.196	0.41a	16.39p	2,108.01	0.000	0.382	0.049	4.614(1)
4.119	0.35a	18.89p	2,108.01	0.000	0.451	0.067	4.258(1)
4.030	0.29a	21.39p	2,108.01	0.000	0.522	0.087	3.900(1)
3.928	0.22a	23.89p	2,108.01	0.000	0.591	0.116	3.542(1)
3.905	0.21a	24.35p	2,108.01	0.000	0.604	0.117	Marg Imm.
3.807	0.15a	26.39p	2,108.02	0.000	0.656	0.140	3.185(1)
3.676	0.09a	28.89p	2,108.02	0.000	0.699	0.169	2.823(1)
3.535	0.06a	31.39p	2,108.02	0.000	0.726	0.201	2.456(1)
3.384	0.06a	33.89p	2,108.12	0.000	0.739	0.230	2.065(1)
3.223	0.07a	36.39p	2,108.20	0.000	0.742	0.253	1.711(1)
3.215	0.07a	36.51p	2,107.99	0.000	0.743	0.266	1.695(1)
3.052	0.10a	38.89p	2,108.32	0.000	0.740	0.297	1.335(1)
2.870	0.15a	41.39p	2,108.05	0.000	0.734	0.329	0.959(1)
2.680	0.22a	43.89p	2,108.00	0.000	0.726	0.361	0.581(1)
2.483	0.30a	46.39p	2,107.99	0.000	0.711	0.393	0.202(1)
2.377	0.35a	47.72p	2,108.01	0.000	0.699	0.403	0.000(1)
Distances in METERS.---Specific Gravity = 1.025.---Area in m.-Rad.							

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 199.6 m.-MT was applied to artificially modify the CG.

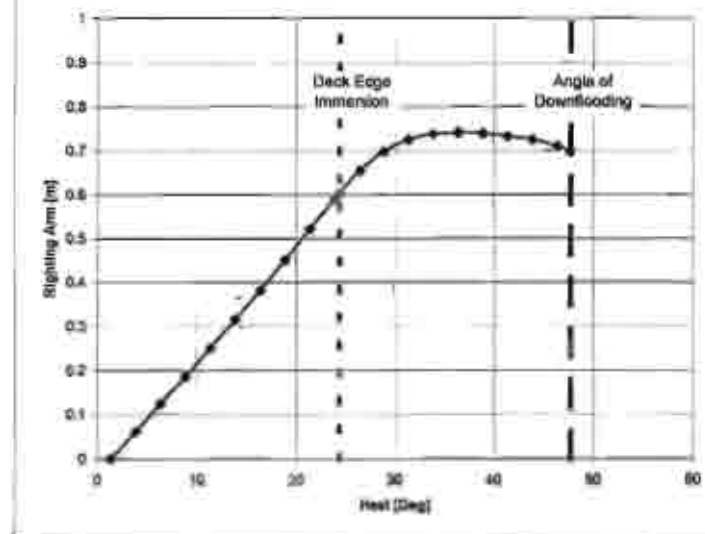
Critical Point-----LCF-----TCP-----VCP
(1) CAPTAIN'S ROOM WINDOW FLOOD 2.630a 7.000 11.300

Damage Case No.301 - Comp 52-66 @ 2.25 m



NOTE: Helicopter included in cas (not depicted in diagram above).

Damage Case No.301 - Comp 52-66 @ 2.25 m



DAMAGE STABILITY CRITERIA				Min/Max	Attained
(1)	GM at Equilibrium	>	0.050	m	1.610 F
(2)	Absolute Angle at Equilibrium	<	15.00	deg	1.39 F
(3)	Absolute Angle at Deck/Edge Immersion	>	0.00	deg	24.55 F

01/30/09 09:54:44 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.302 - COMPT 52-66 @ 3.0M - LOADLINE DEPARTURE CONDITION

HEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 4.392 @ 30.252, 4.665 @ 24.63a
Trim: Aft 0.273/54.875, Heel: Port 0.39 deg.

Part	Weight (MT)		LCG	TCG	VCG		
LIGHT SHIP	1,621.60	2.595a	0.048a	6.457			
AFT STORES	5.00	22.350a	1.330p	6.556			
TWO STORES	3.00	30.000f	0.000	8.500			
Galley Storeroom	14.00	20.250f	0.000	6.000			
Gas in Jettisonable TK	0.60	20.250a	6.100p	11.000			
40 Crew and Effects @ 125	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490a	0.050a	8.130			
UPPER DECK CONTAINER	4.35	26.100a	4.650p	8.600			
FOCSLE DECK MACHINERY	8.98	8.320a	4.670a	11.000			
FOCSLE DECK CONTAINER	3.86	14.350a	5.480a	11.300			
HELICOPTER	2.50	21.000f	0.000	14.300			
ROSETTE EQUIPMENT	0.90	0.700a	5.600a	9.000			
Total Fixed----->	1,689.97	2.659a	0.069a	6,543			
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSM
TK2_WB.F	0.200	1.025	16.61	13.077a	1.832p	1.019	16.92
TK3_PO.F	0.950	0.840	17.32	8.337f	3.453p	1.502	17.12
TK3_PO.S	1.000	1.025	22.25	8.349f	3.465a	1.538	0.00
TK4_PO.F	0.980	0.840	54.65	4.091f	4.148p	2.885	27.2
TK4_PO.S	0.510	1.025	34.73	4.082f	3.978a	1.935	29.24
TK5_PO.F	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK5_PO.S	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK6_PO.F	0.980	0.840	24.13	7.343a	6.598p	1.460	28.16
TK6_PO.S	0.980	0.840	24.13	7.343a	6.581a	1.460	27.75
TK8_PO.F	0.980	0.840	37.71	21.906a	4.119p	3.829	35.67
TK8_PO.S	0.980	0.840	37.71	21.907a	4.106a	3.829	35.61
TK9_PO.F	0.980	0.840	23.84	26.094a	2.780p	4.095	57.62
TK9_PO.S	0.980	0.840	23.84	26.094a	2.747a	4.095	57.05
TK1_FW.F	0.980	1.000	16.56	17.388f	1.521p	1.322	6.89
TK1_FW.S	0.980	1.000	16.56	17.370f	1.516a	1.322	6.82
FLUME.C	0.273	1.025	62.74	8.409f	0.106p	2.627	565.96
CPE_OIL.F	8.500	0.890	0.62	11.185a	0.910p	0.435	0.50
SLUDGES	0.223	1.000	0.77	11.098a	1.281a	0.404	0.87
SEWAGE.S	0.100	0.890	0.49	18.698a	5.289a	3.285	0.77
FOOD.P	0.980	0.840	9.38	18.688a	1.503p	5.929	1.49
Total Tanks----->			673.57	3,461a	0.293p	2,446	1018.19
Total Weight----->			2,163.54	2,834a	0.010p	8,989	
			Displ (MT)	LCG	TCG	VCG	Refit
MULTI	1.025		2,163.33	2,848a	0.030p	2.751	-4.50

Righting Arms: 0.000 0.000p
Distances in METERS: -----Moment in m.-MT.

FREEBOARD STATUS

USK DRAFT draft: 4.392 @ 30.252, 4.665 @ 24.63a
Trim: Aft 0.273/54.875, Heel: Port 0.39 deg.
Least freeboard is 2.879 m. located at 32.130a
Least extra freeboard (to margin line) is 2.802 m. located at 32.130a

01/30/09 09:54:44 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.302 - COMPT 52-66 @ 3.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.273/54.875, Heel: Port 0.39 deg., VCG = 5.646

LCF Displacement Buoyancy-Ctr. weight/ Moment/
Draft--Height (MT)--LCB--VCG--Gm--LCF--Gm trim--GML--GWT
4.571 2,163.33 2.848a 2.751 7.11 3.647a 29.49 74.62 1.062
Distances in METERS.-----Specific Gravity = 1.025-----Moment in m.-MT.
Trim is per 54.88a.

Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 2.834a SCG = 0.010p VCG = 5.646

Free Surface Adjustment: 0.471

Adjusted CG: LCG = 2.834a TCG = 0.007p VCG = 6.117

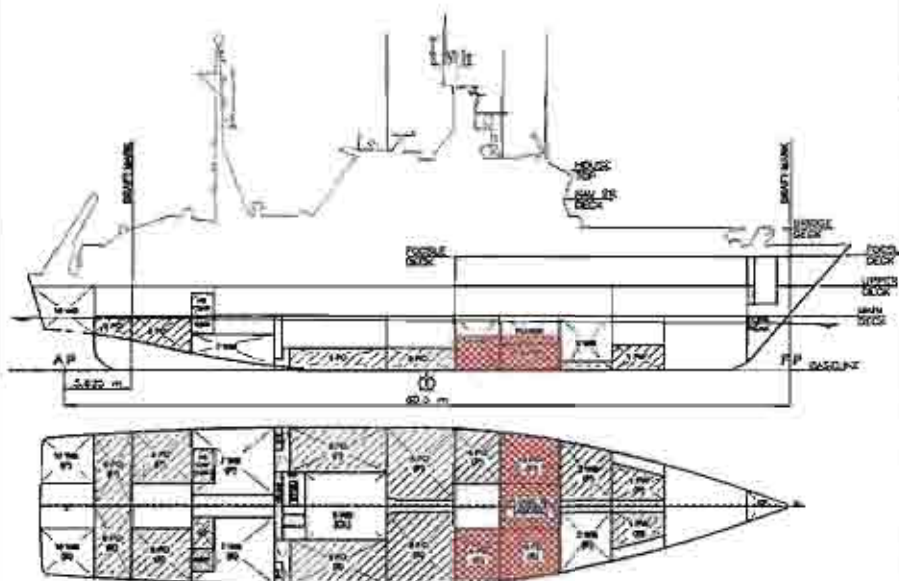
Origin	Depth	Displacement	Righting Arms	Flood Pt
Trim	Heel	Weight (MT)	In Trim	Area
0.25a	0.39p	2,163.54	0.000	0.0000
0.25a	2.89p	2,163.54	0.000	0.0010
0.25a	5.39p	2,163.54	0.000	0.0041
0.27a	7.89p	2,163.54	0.000	0.0092
0.25a	10.39p	2,163.54	0.000	0.0164
0.22a	12.89p	2,163.54	0.000	0.0257
0.18a	15.39p	2,163.54	0.000	0.0372
0.13a	17.89p	2,163.54	0.000	0.0510
0.08a	20.39p	2,163.54	0.000	0.0672
0.02a	22.89p	2,163.54	0.000	0.0858
0.02a	24.09p	2,163.54	0.000	0.0957
0.05a	25.39p	2,163.54	0.000	0.1070
0.11a	27.89p	2,163.54	0.000	0.1304
0.14a	30.39p	2,163.54	0.000	0.1552
0.10a	32.89p	2,163.66	0.000	0.1806
0.14a	33.46p	2,163.49	0.000	0.1866
0.13a	35.39p	2,163.73	0.000	0.1962
0.10a	37.89p	2,163.69	0.000	0.2314
0.04a	40.39p	2,163.75	0.000	0.2562
0.03a	42.89p	2,163.50	0.000	0.2803
0.11a	45.39p	2,163.14	0.000	0.3036
0.18a	47.25p	2,163.86	0.000	0.3202

Distances in METERS.-----Specific Gravity = 1.025.-----Area in m.-Rad.

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 1018.2 m.-MT was applied to artificially modify the CG.

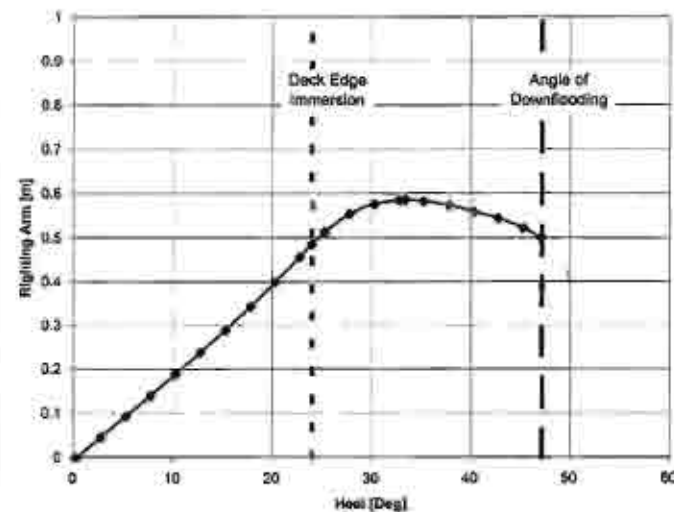
Critical Point-----LCG-----TCG-----VCG
(1) CAPTAIN'S COON WINDOW FLOOD 7,630a 7,000 11,300

Damage Case No.302 - Comp 52-66 @ 3.0 m



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.302 - Comp 52-66 @ 3.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1)	G _M at Equilibrium	> 0.050 m	1.062 m
(2)	Absolute Angle at Equilibrium	< 15.00 deg	2.35 °
(3)	Absolute Angle at Deck/margin immersion	> 0.00 deg	24.03 °

01/30/09 09:04:44 STX Canada Marine, Inc.
 Doc 11.50 COGS JOHN P. Tully
 NO.101 - COMPT 32-45 3 4.0M - LOADLINE DEPARTURE CONDITION

RIGHTING AND COMPLACENT STATUS
 USK DRAFT draft: 8.717 3 30.252, 1.657 3 14.43a
 Trim: Fwd 0.060/34.875, Heel: Stbd 1.38 deg.

Part	Weight (MT)	LCG	TCG	VCG
LIGHT SHIP	1,424.40	2.595a	0.016a	4.447
APT STORES	5.00	22.310a	1.230p	4.588
FWD STORES	3.00	30.000a	0.600	4.300
Galley Stores	14.00	20.250a	1.000	6.000
GAS in Jettisonable TX	8.48	20.250a	4.100p	11.000
40 Trew and Effluent 3 125	5.00	3.000	0.000	11.000
UPPER DECK MACHINERY	17.10	19.400a	0.030a	8.138
UPPER DECK CONTAINER	4.35	26.100a	4.550p	3.400
POCCLE UPPER MACHINERY	8.98	8.320a	4.470a	11.000
POCCLE DECK CONTAINER	3.86	14.350a	5.480a	11.300
HELICOPTER	2.50	21.000a	0.000	14.300
HOSTESS EQUIPMENT	0.90	0.700a	5.400a	8.000
Total Fixed	2,889.91	2.439a	0.049a	4.543

Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSR
TK2_HB.F	0.200	1.025	16.62	13.992a	1.800p	1.210
TK3_FO.F	0.950	0.840	17.37	8.154a	5.431p	1.302
TK3_FO.S	1.000	1.025	22.25	8.348a	2.460a	1.339
TK4_FO.F	0.980	0.840	34.45	4.894a	1.133p	2.885
TK4_FO.S	0.766	1.025	52.10	4.090a	4.104p	2.457
TK5_FO.F	1.000	0.840	34.46	2.460a	2.066p	1.248
TK5_FO.S	1.000	0.840	34.46	2.460a	2.066p	1.248
TK6_FO.F	0.980	0.840	24.13	7.312a	4.367p	1.461
TK6_FO.S	0.980	0.840	24.13	7.312a	4.410a	1.460
TK8_FO.F	0.980	0.840	37.71	21.901a	4.091p	3.526
TK8_FO.S	0.980	0.840	37.71	21.900a	4.134a	3.825
TK9_FO.F	0.980	0.840	23.85	20.041a	4.720p	4.096
TK9_FO.S	0.980	0.840	23.85	20.041a	4.720p	4.096
TK1_FH.F	0.980	1.000	16.56	17.378a	1.508p	1.322
TK1_FH.S	0.980	1.000	16.56	17.378a	1.527a	1.323
FLUNG.C	0.449	1.025	101.68	8.432a	0.178a	1.137
SPR_OIL.F	0.500	0.890	0.62	11.180a	0.380p	0.435
SLUDGE.S	0.223	0.000	0.77	11.084a	1.331a	0.404
SEWAGE.S	0.100	0.000	0.49	18.680a	5.330a	3.285
FOCAL.F	0.000	0.000	9.88	18.887a	2.431p	5.028
Total Tank			369.90	1.941a	0.037p	2.293
Total Height			2,239.87	2.432a	0.036a	1.273

Dist	1.025	2,239.87	2.479a	0.100a	2.815	-4.653
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Righting Arms	0.000	0.000a
Distances in METERS		

FREEMAN STATUS

USK DRAFT draft: 8.717 3 30.252, 1.657 3 14.43a
 Trim: Fwd 0.060/34.875, Heel: Stbd 1.38 deg.
 Least freeboard is 3.772 m. located at 1.000f
 Least extra freeboard (to margin line) is 2.456 m. located at 1.000f

01/30/09 09:04:44 STX Canada Marine, Inc.
 Doc 11.50 COGS JOHN P. Tully
 NO.101 - COMPT 32-45 3 4.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
 Trim: Fwd 0.060/34.875, Heel: Stbd 1.38 deg., VCG = 5.573

LCF	Displacement	Buoyancy-Ctr.	Weight/	Moment/	Dist
Draft	Weight (MT)	LCG	VCG	CG	LCG
1.878	2,239.87	2.479a	5.815	7.16	5.446a
30.28	13.70	1.128			

Distances in METERS, Specific Gravity = 1.025, Moment in m.-MT, Trim is per 34.88m.

Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARM vs HEEL ANGLE

Total CG: LCG = 2.482a TCG = 0.033a VCG = 5.573

Free Surface Adjustment: 0.419

Adjusted CG: LCG = 2.482a TCG = 0.028a VCG = 5.992

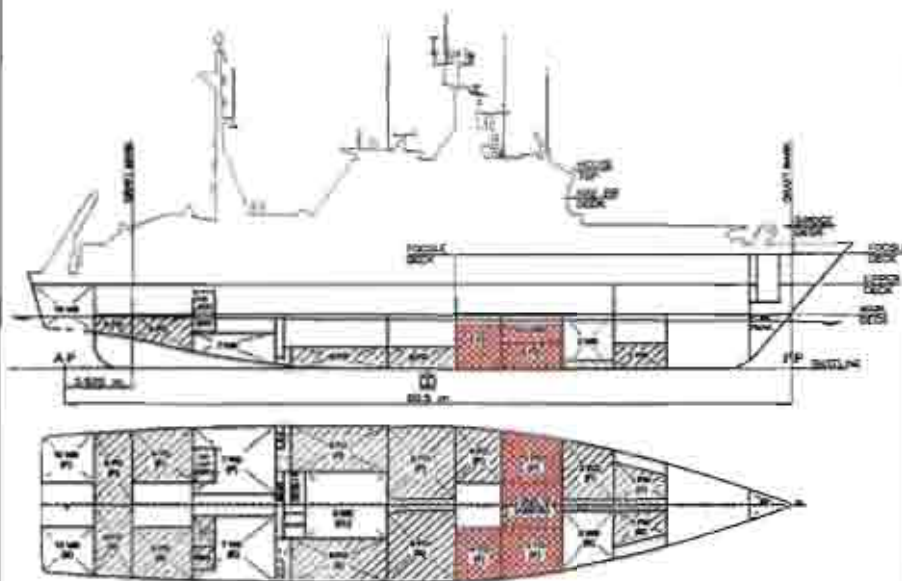
Origin	Degree of	Displacement	Righting Arm	Flood Pt
Depth	Trim	Heel	Weight (MT)	Area
4.688	0.04a	1.39a	2,239.88	0.000
4.656	0.07a	3.89a	2,239.86	0.000
4.633	0.07a	6.39a	2,239.39	0.000
4.599	0.09a	8.89a	2,239.87	0.000
4.554	0.11a	11.39a	2,239.87	0.000
4.493	0.14a	13.89a	2,239.87	0.000
4.428	0.17a	16.39a	2,239.87	0.000
4.346	0.22a	18.89a	2,239.87	0.000
4.252	0.27a	21.39a	2,239.87	0.000
4.144	0.30a	23.89a	2,239.88	0.000
4.144	0.32a	23.89a	2,239.87	0.000
4.023	0.37a	26.39a	2,239.88	0.000
3.893	0.41a	28.89a	2,239.88	0.000
3.751	0.42a	31.39a	2,239.89	0.000
3.599	0.41a	33.89a	2,240.07	0.000
3.478	0.38a	35.77a	2,239.89	0.000
3.437	0.37a	36.39a	2,240.06	0.000
3.394	0.36a	37.02a	2,239.87	0.000
3.254	0.32a	38.89a	2,239.88	0.000
3.051	0.24a	41.39a	2,239.74	0.000
2.892	0.18a	43.89a	2,239.84	0.000
2.698	0.07a	46.39a	2,239.90	0.000
2.478	0.00a	48.43a	2,239.87	0.000

Distances in METERS, Specific Gravity = 1.025, Area in m.-Rad.

Notes: The weights and Center of Gravity used for the righting arm above include tank loads. However, the tank load centers were NOT ALIGNED TO SHIFT with heel and trim changes. Rather, a constant Free Surface Moment of 39.1 m.-MT was applied to artificially modify the CG.

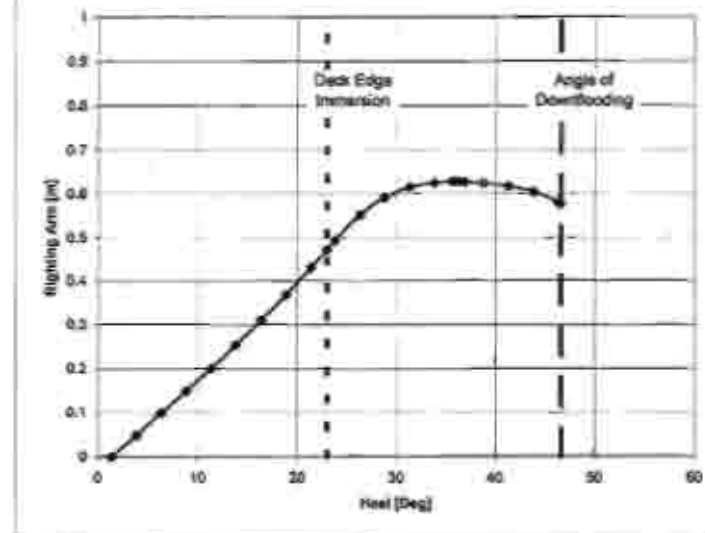
1) Captain's Room Window Flood 7.830a 7.000 11.300

Damage Case No.303 - Comp 52-66 @ 4.0 m



NOTE: Helicopter included in mass (not depicted in diagram above).

Damage Case No.303 - Comp 52-66 @ 4.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1)	GM at Equilibrium	> 0.050 m	1.128 m
(2)	Absolute Angle at Equilibrium	< 15.00 deg	1.39 °
(3)	Absolute Angle at Deck/margin Immersion	> 0.00 deg	23.02 °

01/30/09 09:54:44 STX Canada Marine, Inc.
 RMS 11.50 CGCS JOHN P. Tully
 NO.304 - COMPT 52-60 @ 4.9M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
 USK DRAFT draft: 4.961 @ 30.254, 4.650 @ 24.634
 Trim: Pnd 0.331/54.875, Heel: Stbd 2.59 deg.

Part	Weight (MT)		LCG	TCG	VCG		
LIGHT SHIP	1,624.60		2.595	0.048	0.457		
AFT STORES	9.00		28.390	1.330	6.356		
PWD STORES	3.00		30.000	0.000	8.300		
Galley Stores	14.00		20.250	0.000	6.000		
Gas in Jettisonable Th	0.66		20.200	6.100	11.000		
40 Crew and Effects @ 125	5.00		0.000	0.000	11.000		
UPPER DECK MACHINERY	17.10		19.490	0.050	8.130		
UPPER DECK CONTAINER	4.35		26.100	4.600	8.900		
POSSIBLE DECK MACHINERY	8.98		8.320	4.670	11.000		
POSSIBLE DECK CONTAINER	3.86		10.350	5.400	11.300		
HELICOPTER	2.50		21.000	0.000	14.300		
ROSETTE EQUIPMENT	0.90		0.700	5.600	9.000		
Total Fixed----->	2,689.97		2.689	0.869	6.543		
	load	SpGr	Weight (MT)	LCG	TCG	VCG	FSM
TK3_HB.F	0.200	1.025	16.42	13.103	1.778	1.623	15.69
TK3_PO.F	0.950	0.840	17.32	6.382	3.403	1.503	10.84
TK4_PO.F	0.980	0.840	54.65	4.039	4.124	2.985	14.42
TK5_PO.F	1.000	0.940	34.66	0.655	3.066	1.248	0.50
TK6_PO.S	0.980	0.840	34.66	0.655	3.066	1.248	0.00
TK6_PO.F	0.980	0.840	24.13	7.301	4.543	1.461	3.64
TK6_PO.S	0.980	0.840	24.12	7.299	4.617	1.461	3.73
TK8_PO.F	0.980	0.840	37.71	23.898	4.084	1.829	8.37
TK8_PO.S	0.980	0.840	37.71	23.897	4.141	3.325	8.38
TK9_PO.F	0.980	0.840	23.84	26.091	3.717	4.096	3.21
TK9_PO.S	0.980	0.840	23.84	26.090	3.810	4.096	5.23
TK1_FW.F	0.980	1.000	16.56	17.364	1.502	1.322	2.92
TK1_FW.S	0.980	1.000	16.56	17.375	1.532	1.322	2.39
OPP_OIL.F	0.500	0.890	0.62	11.184	0.869	0.436	0.50
SLUDGE.S	0.223	1.000	0.77	11.072	1.393	0.409	1.16
SEWAGE.S	0.100	0.890	0.49	18.677	5.372	3.286	0.77
PODAY.F	0.980	0.840	9.58	18.637	3.486	5.929	1.70
Total Tanks----->			373.85	6.210	0.904	2.527	86.38
Total Weight----->			2,063.82	5.302	0.109	5.815	
			Displ (MT)	LCG	TCG	VCG	Refit
HULL		1.025	2,304.20	2.190	0.191	2.977	-4.785
TK3_PO.S	Flooded	1.025	-22.25	8.348	3.465	1.538	-4.760
TK4_PO.S	Flooded	1.025	-68.05	4.093	4.198	2.925	-4.780
TK5_PO.S	Flooded	1.025	-150.09	8.442	4.139	3.543	-4.760
Total Displacement--->	1.025		2,063.82	5.268	0.026	2.838	

Righting Arms: 0.000 0.000
 Distances in METERS: Moments in m.-MT.

PRESSBOARD STATUS

USK DRAFT draft: 4.961 @ 30.254, 4.650 @ 24.634
 Trim: Pnd 0.331/54.875, Heel: Stbd 2.59 deg.
 Least freeboard is 2.502 m. located at 1.000f
 Least extra freeboard (to margin line) is 2.426 m. located at 1.000f

01/30/09 09:54:44 STX Canada Marine, Inc.
 RMS 11.50 CGCS JOHN P. Tully
 NO.304 - COMPT 52-60 @ 4.9M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES with FLOODING
 Trim: Pnd 0.331/54.875, Heel: Stbd 2.59 deg., VCG = 5.815

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft--Weight (MT)--LCG--VCG--cm--LCF--cm trim--GML--GNT
 4.782 2,063.82 3.284 5.836 6.83 6.019 29.19 77.61 1.090
 Distances in METERS--Specific Gravity = 1.025--Moment in m.-MT.
 Trim is per 54.88m.
 Draft is from USK DRAFT: True Free Surface Included.

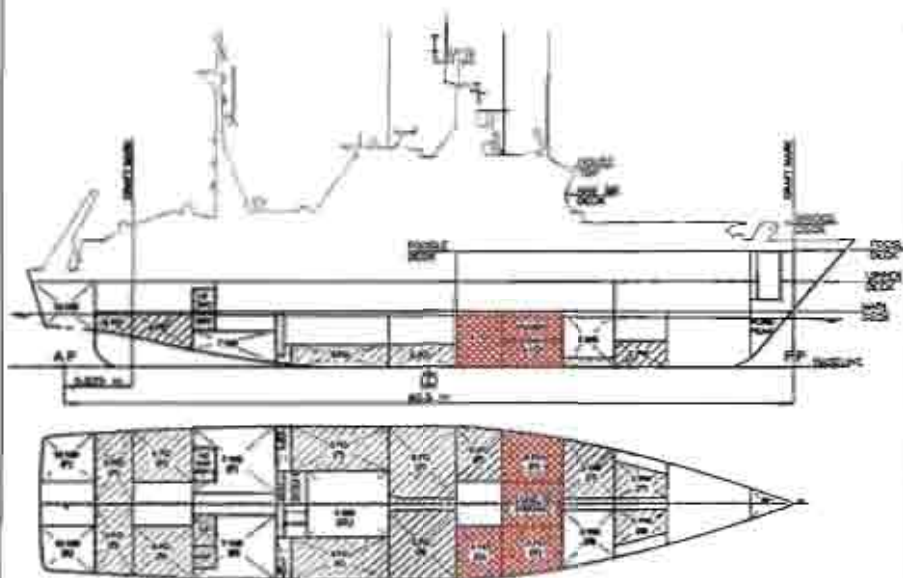
RIGHTING ARMS vs HEEL ANGLE with FLOODING
 Total CG: LCG = 1.302m TCG = 0.109p VCG = 5.815
 Free Surface Adjustment: 0.042
 Adjusted CG: LCG = 3.303m TCG = 0.110p VCG = 5.857

Origin	Degrees of	Displacement	Righting Arms	Flood Pt
Depth	Trim	Heel	Weight (MT)	in Trim--in Heel--Brws--Height
4.780	0.355	3.59m	2,063.82	0.000 0.000 0.000 0.238(1)
4.754	0.330	5.03m	2,063.82	0.000 0.065 0.0014 3.824(1)
4.717	0.320	7.58m	2,063.82	0.000 0.130 0.0057 5.601(1)
4.668	0.315	10.08m	2,064.08	0.000 0.195 0.0128 5.271(1)
4.607	0.315	12.58m	2,063.59	0.000 0.262 0.0237 4.936(1)
4.535	0.321	15.08m	2,063.82	0.000 0.331 0.0357 4.594(1)
4.451	0.312	17.58m	2,063.82	0.000 0.403 0.0517 4.249(1)
4.354	0.300	20.09m	2,063.82	0.000 0.478 0.0709 3.900(1)
4.244	0.386	22.59m	2,063.82	0.000 0.556 0.0934 3.550(1)
4.121	0.386	25.09m	2,063.82	0.000 0.634 0.1194 3.198(1)
3.989	0.442	27.59m	2,063.82	0.000 0.699 0.1484 2.841(1)
3.847	0.442	30.09m	2,063.83	0.000 0.745 0.1799 2.478(1)
3.696	0.435	32.59m	2,064.20	0.000 0.776 0.2132 2.110(1)
3.534	0.390	35.09m	2,063.82	0.000 0.797 0.2475 1.740(1)
3.363	0.346	37.59m	2,064.00	0.000 0.809 0.2826 1.365(1)
3.181	0.275	40.09m	2,063.92	0.000 0.816 0.3181 0.990(1)
2.991	0.185	42.59m	2,063.95	0.000 0.820 0.3538 0.614(1)
2.942	0.156	45.09m	2,063.81	0.000 0.819 0.3827 0.239(1)
2.795	0.085	47.59m	2,063.61	0.000 0.813 0.3894 0.235(1)
2.675	0.025	50.09m	2,064.29	0.000 0.804 0.4111 -0.001(1)

Distances in METERS--Specific Gravity = 1.025--Area in m.-Rad.
 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 86.4 m.-MT was applied to artificially modify the CG.

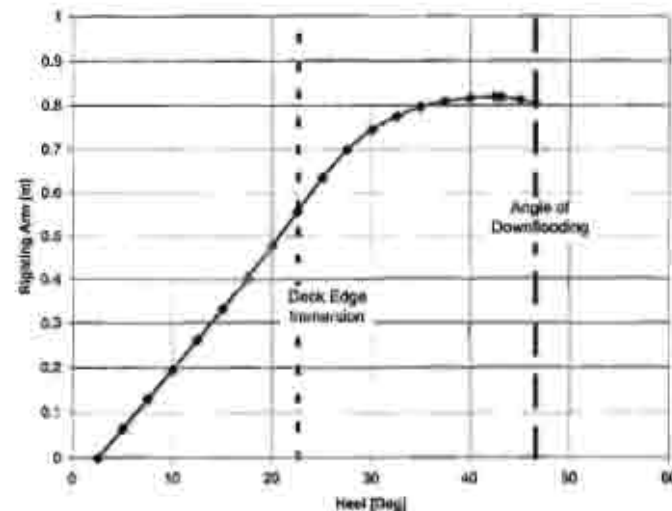
Critical Point: LCG--TCG--VCG
 (1) CAPTAIN'S ROOM WINDOW FLOOD 7.630m 7.000 11.300

Damage Case No.304 - Comp 52-66 @ 4.9 m



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.304 - Comp 52-66 @ 4.9 m



DAMAGE STABILITY CRITERIA			
	Min/Max	Assessed	Required
(1) DN at Equilibrium	> 0.050	No	1.430 P
(2) Absolute Angle at Equilibrium	< 15.00 deg	2.58 P	
(3) Absolute Angle at Deck/margin Immersion	> 0.00 deg	22.66 P	

01/21/09 08:53:40 STX Canada Marine, Inc.
GNS 11.50 COGS JOHN P. Tully
NO.400 - COMPT 43-52 @ 1.5M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT: 4.163 @ 30.25t, 4.586 @ 24.43t
Trim: Aft 0.522/54.875, Heel: Port 0.83 deg.

Part		Weight (MT)	LCB	TCB	VCG	
LIGHT SHIP		1,624.60	2.595a	0.048a	6.457	
AFT STORES		5.00	32.350a	1.339p	6.554	
FWD STORES		3.00	30.000f	0.000	6.500	
Galley Stores		14.00	20.250f	0.000	6.000	
Gas in Jettisonable TK		0.66	20.250a	6.100p	11.800	
40 Crew and Effects @ 112		9.00	0.000	0.000	11.000	
UPPER DECK MACHINERY		17.10	19.490a	0.050a	8.130	
UPPER DECK CONTAINER		4.35	26.100a	4.950p	8.600	
FOCSLE DECK MACHINERY		8.98	8.320a	4.070a	11.000	
FOCSLE DECK CONTAINER		3.88	14.350a	5.480a	11.300	
HELICOPTER		2.90	31.000f	0.000	14.300	
ROSETTE EQUIPMENT		0.90	6.700a	5.600a	9.000	
Total Fixed----->		1,839.97	2.659a	0.069a	6.543	
	Load	Spot	Weight (MT)	LCB	TCB	VCG
TK2_SH.P	0.200	1.025	16.61	13.068a	1.841p	1.003
TK3_SH.P	0.850	0.840	17.32	8.328a	3.461p	1.500
TK4_SH.P	0.980	0.840	54.65	4.090f	4.152p	2.883
TK4_SH.S	0.980	0.840	54.65	4.090f	4.137a	2.865
TK5_SH.P	1.000	0.840	34.66	0.465a	3.066p	1.244
TK5_SH.S	0.623	1.025	38.79	0.533a	2.604a	0.987
TK6_SH.P	0.980	0.840	24.13	7.354a	4.003p	1.460
TK6_SH.S	0.980	0.840	24.13	7.354a	4.978a	1.461
TK8_SH.P	0.980	0.840	37.71	31.911a	4.125p	3.829
TK8_SH.S	0.980	0.840	37.71	31.911a	4.099a	3.829
TK9_SH.P	0.980	0.840	23.84	26.095a	2.794p	4.095
TK9_SH.S	0.980	0.840	23.85	26.096a	2.733p	4.095
TK1_SH.P	0.980	1.000	16.56	17.362f	1.525p	1.322
TK1_SH.S	0.980	1.000	16.56	17.362f	1.513a	1.322
CPT_OIL.P	0.500	0.890	0.62	11.185a	0.917p	0.435
SLUDGE.S	0.223	1.000	0.77	11.105a	1.272a	0.405
SEWAGE.S	0.100	0.890	0.49	19.704a	5.277a	1.295
CONTROL.C	0.633	1.025	5.71	0.653f	0.001	0.750
Permeability override: 0.850						
PODAP.P	0.980	0.840	9.58	18.689a	3.505p	5.929
Total Tanks----->			426.34	4.930a	0.379a	2.554
Total Weight----->			2,116.31	3.116a	0.022p	5.739
			Displ (MT)	LCB	TCB	VCG
SWL	1.025		2,116.71	3.145a	0.066p	2.715
Righting Arms				0.000	0.000p	
Distances in METERS						Moments in m.-MT

FREEBOARD STATUS
USK DRAFT: 4.163 @ 30.25t, 4.586 @ 24.43t
Trim: Aft 0.522/54.875, Heel: Port 0.83 deg.
Least freeboard is 2.770 m. located at 32.130a
Gross unice freeboard (to margin line) is 2.694 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
GNS 11.50 COGS JOHN P. Tully
NO.400 - COMPT 43-52 @ 1.5M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 0.522/54.875, Heel: Port 0.83 deg., VCG = 5.739

LCB Displacement Buoyancy-Ctr. Weight/ Moment/
Draft: Weight (MT) LCB VCB cm LCF cm Trim GML GWT
4.506 2,116.71 3.145a 2.715 1.08 5.777a 29.13 75.53 1.316
Distances in METERS. Specific Gravity = 1.025. Moment in m.-MT.
Trim is per 54.88m.
Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE
Total CG: LCB = 3.116a TCB = 0.022p VCG = 5.739
Free Surface Adjustment: 0.167
Adjusted CG: LCB = 3.116a TCB = 0.019p VCG = 5.906

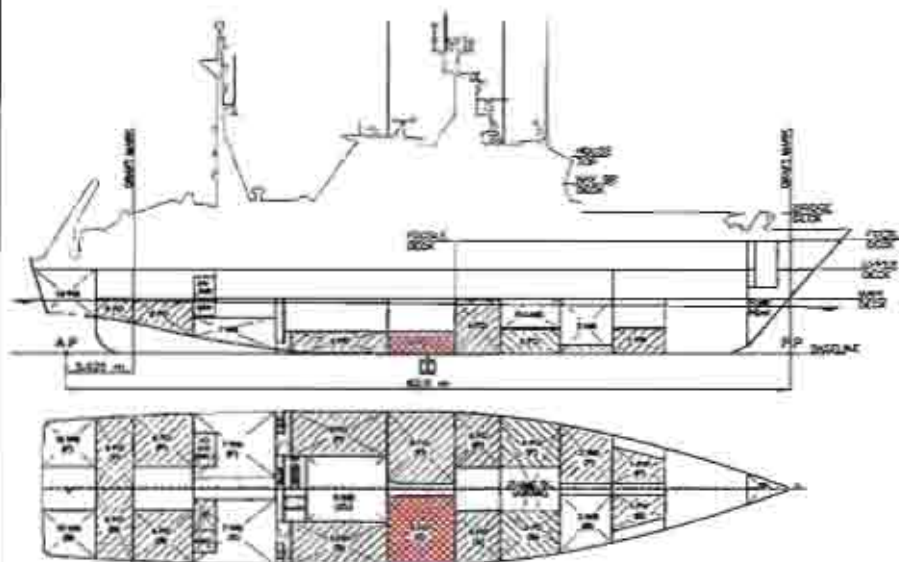
Origin	Degree of	Displacement	Righting Arms	Flood Ft			
Depth	Trim	Heel	Weight (MT)	in Trim in Heel	Area	Height	
4.436	0.55a	0.83p	2,116.84	0.000	0.000	0.000	4.687(1)
4.427	0.55a	3.33p	2,116.12	0.000	0.038	0.0013	6.374(1)
4.407	0.54a	5.83p	2,116.63	0.000	0.116	0.0051	6.051(1)
4.378	0.52a	8.33p	2,116.31	0.000	0.175	0.0114	5.718(1)
4.318	0.50a	10.83p	2,116.31	0.000	0.234	0.0203	5.378(1)
4.286	0.47a	13.33p	2,116.31	0.000	0.293	0.0319	5.032(1)
4.223	0.43a	15.83p	2,116.31	0.000	0.357	0.0461	4.681(1)
4.149	0.37a	18.33p	2,116.31	0.000	0.421	0.0630	4.326(1)
4.062	0.31a	20.83p	2,116.31	0.000	0.489	0.0829	3.968(1)
3.961	0.24a	23.33p	2,116.31	0.000	0.555	0.1056	3.610(1)
3.922	0.22a	24.23p	2,116.31	0.000	0.578	0.1145	3.553(1)
3.845	0.17a	25.83p	2,116.32	0.000	0.618	0.1312	3.253(1)
3.718	0.11a	28.33p	2,116.32	0.000	0.663	0.1593	2.891(1)
3.580	0.08a	30.83p	2,116.31	0.000	0.689	0.1888	2.525(1)
3.431	0.07a	33.33p	2,116.40	0.000	0.700	0.2192	2.154(1)
3.315	0.07a	35.21p	2,116.43	0.000	0.703	0.2421	1.878(1)
3.272	0.08a	35.83p	2,116.44	0.000	0.702	0.2498	1.790(1)
3.103	0.11a	38.33p	2,116.44	0.000	0.698	0.2803	1.404(1)
2.925	0.18a	40.83p	2,116.40	0.000	0.689	0.3106	1.027(1)
2.758	0.23a	43.33p	2,116.34	0.000	0.678	0.3404	0.649(1)
2.541	0.31a	45.83p	2,116.32	0.000	0.661	0.3697	0.270(1)
2.401	0.37a	47.80p	2,116.41	0.000	0.644	0.3998	-0.000(1)

Distances in METERS. Specific Gravity = 1.025. Area in m.-Rad.

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 353.0 m.-MT was applied to artificially modify the CG.

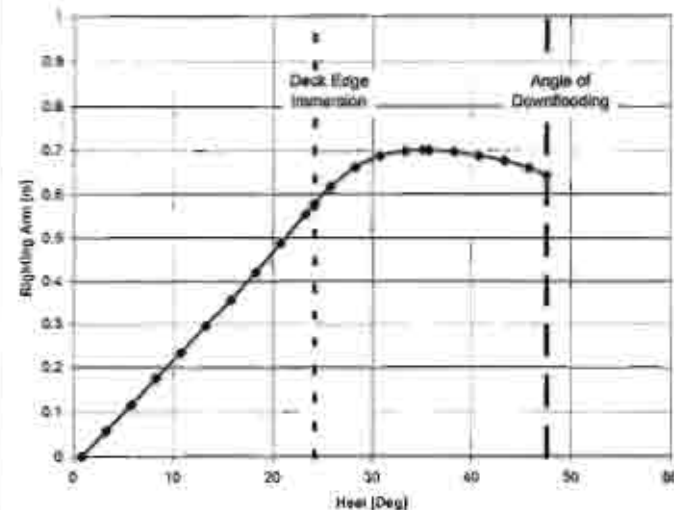
Critical Point: LCB TCB VCB
(1) CAPTAIN'S MISC WINDOW FLOOD 7.450a 7.000 11.300

Damage Case No.400 - Comp 43-52 @ 1.5 m
 IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG. 49



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.400 - Comp 43-52 @ 1.5 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) GM at Equilibrium	>	0.050 m	1.316 P
(2) Absolute Angle at Equilibrium	<	15.00 deg	0.61 P
(3) Absolute Angle at Deck/margin Immersion	>	0.00 deg	24.23 P

01/21/09 08:53:40 STX Canada Marine, Inc.
 GNS 11.50 CCGS JOHN P. Tully
 NO.401 - COMPT 13-52 8 2.0M - LOADLINE DEPARTURE CONDITION

HEIGHT and DISPLACEMENT STATUS
 USN DRAFT draft: 4.208 8 30.25f, 4.598 8 24.13a
 Trim: Aft 0.490/54.875, Heel: Stbd 0.39 deg.

Item			Height (MT)	LCG	TCG	VCG	
LIGHT SHIP			1,624.60	2.595a	0.046a	4.457	
APT STORES			5.00	22.350a	1.330p	4.556	
TWO STORES			3.00	30.000p	0.000	8.500	
Galley Stores			14.00	20.350p	0.000	4.000	
Gas in Jettisonable TK			0.85	30.250a	8.100p	11.000	
40 Crew and Effects 7 125			3.00	0.000	0.000	11.000	
UPPER DECK MACHINERY			17.10	18.499a	0.850a	8.138	
UPPER DECK CONTAINER			4.35	26.100a	4.450p	8.400	
POCSLE DECK MACHINERY			8.80	5.320a	4.670a	11.000	
POCSLE DECK CONTAINER			3.84	14.350a	5.480a	11.300	
HELICOPTER			2.50	21.000p	0.000	14.300	
ROSETTE EQUIPMENT			0.90	0.700a	5.000a	9.000	
Total Fixed			1,689.97	2.659a	0.069a	6.543	
	Load	SpGr	Height (MT)	LCG	TCG	VCG	FSN
TK2_WB.P	0.200	1.025	16.41	13.074f	1.819p	1.019	16.57
TK3_FU.P	0.950	0.840	17.32	8.331f	3.440p	1.502	17.03
TK4_FU.P	0.980	0.840	54.65	4.090f	4.147p	2.885	27.22
TK4_FU.S	0.980	0.840	54.65	4.090f	4.148a	2.885	27.27
TK5_FU.P	1.000	0.840	34.66	0.465a	3.066p	1.248	0.30
TK5_FU.S	1.000	1.025	62.29	0.465a	3.066a	1.248	0.32
TK6_FU.P	0.980	0.840	24.13	7.357a	4.583p	1.460	23.40
TK6_FU.S	0.980	0.840	24.13	7.357a	4.597a	1.460	23.38
TK8_FU.P	0.980	0.840	37.72	21.911a	4.106p	3.829	35.61
TK8_FU.S	0.980	0.840	37.72	21.911a	4.113a	3.829	35.47
TK9_FU.P	0.980	0.840	23.84	26.036a	2.747p	4.095	52.88
TK9_FU.S	0.980	0.840	23.84	26.036a	2.780a	4.095	53.57
TK1_FW.P	0.980	1.000	16.56	17.346f	1.514p	1.322	6.82
TK1_FW.S	0.980	1.000	16.56	17.346f	1.522a	1.322	6.83
CPP OIL.P	0.500	0.890	0.62	11.165a	0.899p	0.435	0.50
SLUDGE.S	0.223	1.000	0.77	11.100a	1.296a	0.404	0.95
SENGH.S	0.100	0.890	0.49	18.703a	5.311a	3.285	0.77
CONTROL.C	0.044	1.025	7.62	0.011f	0.103a	1.001	81.70
Permeability override:		0.880					
SUDAY.P	0.980	0.840	9.59	18.689a	3.499p	2.929	3.48
Total Tanks			443.75	4.740a	0.232p	3.522	414.33
Total Weight			2,133.72	3.093a	0.310a	5.707	
Displacement	LCG	TCG	VCG	RefBt			
NULL	7.025	2,133.54	5.120a	0.031a			
			3.725	-4.464			

Righting Arms: 0.000 0.200a
 Distances in METERS: Moments in m.-MT.

FREBOARD STATUS

USN DRAFT draft: 4.208 8 30.25f, 4.598 8 24.13a
 Trim: Aft 0.490/54.875, Heel: Stbd 0.39 deg.
 Least freeboard is 2.815 m. located at 32.130a
 Least extra freeboard (to margin line) is 2.739 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
 GNS 11.50 CCGS JOHN P. Tully
 NO.401 - COMPT 13-52 8 2.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.490/54.875, Heel: Stbd 0.39 deg., VCG = 5.707

LCF Displacement Buoyancy-Ctr. Height/ Moment/
 Draft---Height (MT)---LCB---VCG---LCF---m trim---GML---GMT
 4.530 2,133.54 3.120a 2.729 7.09 5.756a 29.24 75.20 1,306
 Distances in METERS. Specific Gravity = 1.025. Moment in m.-MT.
 Trim is per 54.88m.
 Draft is from USN DRAFT. True Free Surface included.

RIGHTING ARM vs HEEL ANGLE
 Total CG: LCG = 3.093a TCG = 0.010a VCG = 5.707
 Free Surface Adjustment: 0.194
 Adjusted CG: LCG = 3.055a TCG = 0.009a VCG = 5.901

Origin	Degree of	Displacement	Righting Arms	Flood Pt
Depth	Trim	Heel	Height (MT)	Area
4.464	0.51a	0.38a	2,134.03	0.000
4.457	0.51a	2.88a	2,133.53	0.000
4.439	0.51a	5.39a	2,133.33	0.000
4.412	0.48a	7.89a	2,133.73	0.000
4.373	0.47a	10.39a	2,133.73	0.000
4.323	0.44a	12.89a	2,133.73	0.000
4.282	0.40a	15.39a	2,133.72	0.000
4.188	0.35a	17.89a	2,133.73	0.000
4.125	0.30a	20.39a	2,133.73	0.000
4.028	0.23a	22.89a	2,133.73	0.000
3.915	0.20a	24.07a	2,133.72	0.000
3.893	0.16a	25.39a	2,133.73	0.000
3.747	0.13a	27.89a	2,133.73	0.000
3.631	0.07a	30.39a	2,133.73	0.000
3.455	0.06a	32.89a	2,133.80	0.000
3.328	0.07a	35.39a	2,133.83	0.000
3.286	0.07a	36.02a	2,133.84	0.000
3.162	0.10a	37.59a	2,134.01	0.000
2.965	0.15a	40.39a	2,133.83	0.000
2.798	0.21a	43.89a	2,133.73	0.000
2.605	0.30a	48.39a	2,133.79	0.000
2.466	0.37a	47.41a	2,133.92	0.000

Distances in METERS. Specific Gravity = 1.025. Area in m.-Rad.

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 414.3 m.-MT was applied to artificially modify the CG.

Critical Point: LCF TCG VCG
 71 CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300

01/21/04 06:55:40 STX Canada Marine, Inc.
GHS 11.50 COGS JOHN F. Tully
NO.402 - COMPT 43-52 @ 2.5% - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS

USK DRAFT draft: 4.283 @ 30.256, 4.720 @ 24.63a
Time: Aft 0.437/54.875, Huel: Subd 0.80 day.

Part			Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP			1,624.60	2,599m	0.048g	6.457	
AFT STORES			5.03	22.350z	1.330p	6.556	
FWD STORES			3.03	30.000f	0.000	8.500	
Galley Stores			14.00	20.259f	0.000	6.009	
Gas in Jettableable Tank			0.68	20.250m	6.100p	11.000	
40 Crew and Effects # 125			5.00	0.000	0.800	11.000	
UPPER DECK MACHINERY			17.10	19.490a	0.950a	8.130	
UPPER DECK CONTAINER			4.35	26.100a	1.650p	8.600	
POCSLE DECK MACHINERY			8.98	8.320a	4.670a	11.000	
POCSLE DECK CONTAINER			3.86	14.350a	3.980a	11.300	
HELICOPTER			2.20	21.000f	0.000	14.300	
ROSETTE EQUIPMENT			0.90	0.700a	5.600a	9.000	
Total fixed----->			1,689.97	2,659a	0.069g	6.543	
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSH
Tk1_WB.F	0.200	1.025	16.62	13.677f	1.811p	1.019	16.35
Tk3_FO.2	0.950	0.840	17.57	8.336f	3.432p	1.502	16.97
Tk4_FO.F	0.980	0.840	54.65	4.091f	4.137p	2.885	27.19
Tk4_FO.S	0.980	0.840	54.65	4.090f	4.132p	2.885	27.31
Tk5_FO.F	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
Tk5_FO.S	1.000	1.025	42.29	0.465a	3.066a	1.248	0.00
Tk6_FO.F	0.980	0.840	24.13	7.350a	4.975p	1.460	19.89
Tk6_FO.S	0.980	0.840	24.13	7.350a	4.600a	1.460	20.11
Tk6_FO.F	0.980	0.840	37.71	21.910a	0.098p	3.829	32.11
Tk6_FO.S	0.980	0.840	37.71	21.909a	4.126a	3.829	32.97
Tk9_FO.F	0.980	0.840	23.85	24.095a	2.732p	4.095	28.64
Tk9_FO.S	0.980	0.840	23.84	26.095a	2.794a	4.095	29.30
Tk1_FM.F	0.980	1.000	16.56	17.368f	1.323p	1.322	6.89
Tk1_FM.S	0.980	1.000	16.56	17.364f	1.325a	1.322	5.45
CFF_OIL.F	0.500	0.890	0.62	11.185a	0.893p	0.435	0.50
SLUDGE.S	0.223	1.000	0.77	11.071a	1.307a	0.404	1.00
SEBAGE.S	0.100	0.890	0.49	18.701a	5.323a	3.285	0.77
CONTROL.C	0.208	1.025	35.93	0.169a	0.697a	1.988	931.15
Permeability override:		0.850					
FOOTING.F	0.980	0.840	9.88	18.689a	3.449p	5.929	3.49
Total Tanks----->			472.05	4.476a	0.143p	2.506	1201.94
Total Weight----->			2,162.02	3.055a	0.022g	5.662	
			Displ (MT)	LCB	TCB	VCB	Refnt
HULL		1.025	2,162.06	3.079a	0.065g	2.752	-4.500

Righting Arm:	0.900	0.000s
Distances in METERS	Moments in m.-MT	
0.00	0.00	0.00
0.05	0.00	0.00
0.10	0.00	0.00
0.15	0.00	0.00
0.20	0.00	0.00
0.25	0.00	0.00
0.30	0.00	0.00
0.35	0.00	0.00
0.40	0.00	0.00
0.45	0.00	0.00
0.50	0.00	0.00
0.55	0.00	0.00
0.60	0.00	0.00
0.65	0.00	0.00
0.70	0.00	0.00
0.75	0.00	0.00
0.80	0.00	0.00
0.85	0.00	0.00
0.90	0.00	0.00
0.95	0.00	0.00
1.00	0.00	0.00
1.05	0.00	0.00
1.10	0.00	0.00
1.15	0.00	0.00
1.20	0.00	0.00
1.25	0.00	0.00
1.30	0.00	0.00
1.35	0.00	0.00
1.40	0.00	0.00
1.45	0.00	0.00
1.50	0.00	0.00
1.55	0.00	0.00
1.60	0.00	0.00
1.65	0.00	0.00
1.70	0.00	0.00
1.75	0.00	0.00
1.80	0.00	0.00
1.85	0.00	0.00
1.90	0.00	0.00
1.95	0.00	0.00
2.00	0.00	0.00
2.05	0.00	0.00
2.10	0.00	0.00
2.15	0.00	0.00
2.20	0.00	0.00
2.25	0.00	0.00
2.30	0.00	0.00
2.35	0.00	0.00
2.40	0.00	0.00
2.45	0.00	0.00
2.50	0.00	0.00
2.55	0.00	0.00
2.60	0.00	0.00
2.65	0.00	0.00
2.70	0.00	0.00
2.75	0.00	0.00
2.80	0.00	0.00
2.85	0.00	0.00
2.90	0.00	0.00
2.95	0.00	0.00
3.00	0.00	0.00
3.05	0.00	0.00
3.10	0.00	0.00
3.15	0.00	0.00
3.20	0.00	0.00
3.25	0.00	0.00
3.30	0.00	0.00
3.35	0.00	0.00
3.40	0.00	0.00
3.45	0.00	0.00
3.50	0.00	0.00
3.55	0.00	0.00
3.60	0.00	0.00
3.65	0.00	0.00
3.70	0.00	0.00
3.75	0.00	0.00
3.80	0.00	0.00
3.85	0.00	0.00
3.90	0.00	0.00
3.95	0.00	0.00
4.00	0.00	0.00
4.05	0.00	0.00
4.10	0.00	0.00
4.15	0.00	0.00
4.20	0.00	0.00
4.25	0.00	0.00
4.30	0.00	0.00
4.35	0.00	0.00
4.40	0.00	0.00
4.45	0.00	0.00
4.50	0.00	0.00
4.55	0.00	0.00
4.60	0.00	0.00
4.65	0.00	0.00
4.70	0.00	0.00
4.75	0.00	0.00
4.80	0.00	0.00
4.85	0.00	0.00
4.90	0.00	0.00
4.95	0.00	0.00
5.00	0.00	0.00
5.05	0.00	0.00
5.10	0.00	0.00
5.15	0.00	0.00
5.20	0.00	0.00
5.25	0.00	0.00
5.30	0.00	0.00
5.35	0.00	0.00
5.40		

FREBOARD STATUS

USK DRAFT draft: 4.283 @ 30.25°, 4.720 @ 24.63°
Trim: Aft 0.437/54.87%. Heel: Stbd 0.84 deg.
Least freeboard is 2.746 m. located at 32.130a
Least extra freeboard (to margin line) is 2.670 m. located at 32.130a

01/21/09 05:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN B. Tully
NO.402 - COMPT 43-52 @ 2.5M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.437/54.675, Huel: 3rd 0.84 deg., VCU = 5.662

LCF Displacement	Buoyancy-Ctr.	Weight/	Moment/
Draft-Weight (MT)	LCB-VCB	cm	LCF-on trim
4.569	2,162.04	3.079a	2,752
		7.31	5,717a
			29.38
			74.65
			0.966

Distances in METERS. Specific Gravity = 1.025. Moment in m-MT.

Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARM vs. HEEL ANGLE

Total CG: LCG = 3.055a, TCG = 0.022s, VCG = 5.662

Adjusted CG: LCG = 3.060s TCG = 0.014s VCG = 6.217s

Origin	Degrees of Displacement			Fighting Arms		Flood Ft	
Depth	Trin	Keel	Weight (MT)	In Trin	In Keel	Area	Height
4.509	0.484	0.844	2,162.52	0.000	0.000	0.0000	5.624(1)
4.500	0.464	3.344	2,162.07	0.000	0.043	0.0009	5.311(2)
4.480	0.464	5.844	2,161.61	0.000	0.086	0.0037	5.988(3)
4.450	0.444	8.344	2,162.02	0.000	0.130	0.0085	5.655(4)
4.409	0.424	10.844	2,162.03	0.000	0.174	0.0151	5.316(5)
4.357	0.394	13.344	2,162.02	0.000	0.220	0.0237	4.970(6)
4.293	0.354	15.844	2,162.02	0.000	0.268	0.0244	4.619(7)
4.218	0.304	18.344	2,162.02	0.000	0.319	0.0477	4.264(8)
4.130	0.244	20.844	2,162.02	0.000	0.373	0.0623	3.907(9)
4.029	0.184	23.344	2,162.02	0.000	0.428	0.0797	3.549(10)
3.009	0.174	23.804	2,162.02	0.000	0.437	0.0831	Marg Inm.
3.913	0.114	25.844	2,162.03	0.000	0.478	0.0995	3.191(11)
3.766	0.074	28.344	2,162.03	0.000	0.510	0.1211	2.847(12)
3.649	0.044	30.844	2,162.06	0.000	0.524	0.1438	2.458(13)
3.571	0.044	32.194	2,162.08	0.000	0.525	0.1561	2.257(14)
3.501	0.044	33.344	2,162.09	0.000	0.524	0.1466	2.085(15)
3.346	0.064	35.844	2,162.19	0.000	0.515	0.1893	1.709(16)
3.175	0.104	38.344	2,162.17	0.000	0.500	0.2115	1.331(17)
2.997	0.164	40.844	2,162.03	0.000	0.481	0.2329	0.952(18)
2.810	0.234	43.344	2,161.99	0.000	0.460	0.2534	0.572(19)
2.615	0.324	45.844	2,161.81	0.000	0.433	0.2729	0.191(20)
2.518	0.374	47.094	2,162.23	0.000	0.415	0.2821	-0.001(21)

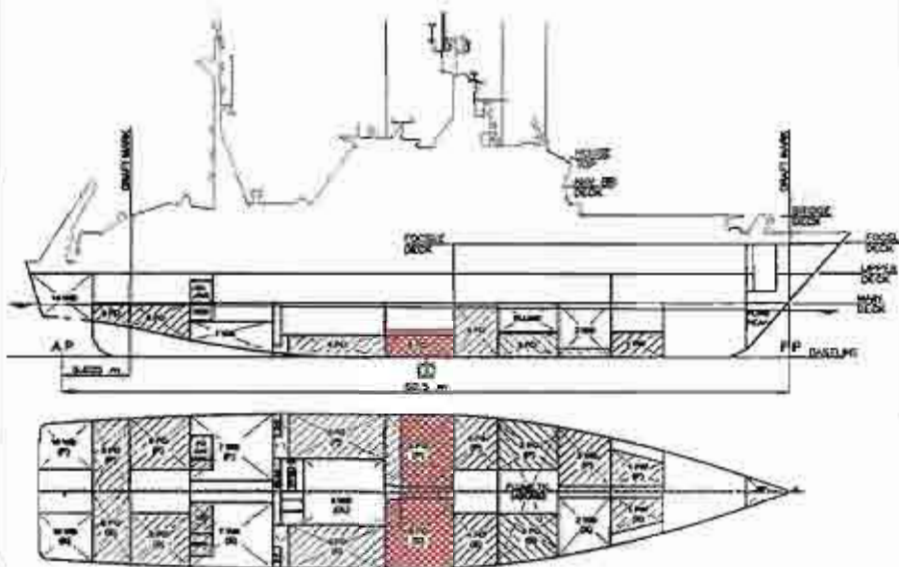
Distances in METERS, --- Specific Gravity = 1.025, ----- Area in m. Rad.

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 1201.3 m.-MT was applied to artificially modify the CG.

Critical Point		LCP	TCP	VCP
(1) CAPTAIN'S ROOM WINDOW	FLOOD	7.630a	7.000	11.300

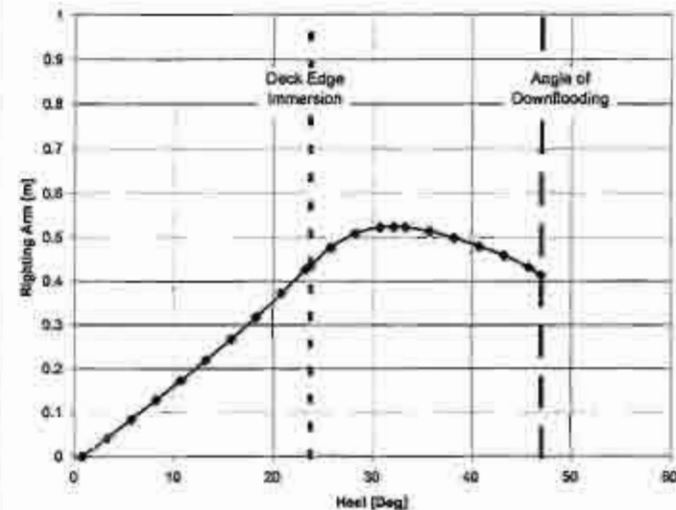
Damage Case No.402 - Corno 43-52 @ 2.5 m

IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG. 48



NOTE: Helicopter included in cases (not depicted in diagram above).

Damage Case No.402 - Comp 43-52 @ 2.5 m



LIM	DAMAGE STABILITY CRITERIA	Min/Max	Attained
(1)	Ge at Equilibrium	> 0.950	0.966 F
(2)	Absolute Angle at Equilibrium	< 13.00	0.84 F
(3)	Absolute Angle at Deck/Margin Intersection	> 6.00	23.80 F

01/21/09 08:53:40 STX Canada Marine, Inc.
 SHS 11.50 COGS JOHN P. Tuilly
 HQ.403 - COMPT 43-52 @ 3.0M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
 USK DRAFT draft: 4.358 @ 30.25F, 4.741 @ 24.63a
 Trim: Aft 0.383/54.875, Heel: Stbd 1.10 deg.

Part	Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP	1,621.60	2.595a	0.048a	6.467	
APT STORES	5.00	22.350a	1.310p	4.556	
PWD STORES	1.00	30.000p	0.000	0.500	
Galley Stores	14.00	20.250a	0.000	6.000	
Gas in Jettableable TX	0.68	20.250a	6.100p	11.000	
4D Crew and Effects @ 128	5.00	0.000	0.000	11.000	
UPPER DECK MACHINERY	17.10	19.490a	0.050a	8.130	
UPPER DECK CONTAINER	4.35	26.100a	4.350p	8.800	
FOCSLE DECK MACHINERY	8.98	8.320a	4.670a	11.000	
FOCSLE DECK CONTAINER	3.86	14.350a	5.480a	11.300	
HELICOPTER	2.50	21.000p	0.000	14.300	
ROSETTE EQUIPMENT	0.90	0.700a	5.600a	9.600	
Total Fixed	1,689.97	2.459a	0.069a	6.563	
Load	SpGr	Weight (MT)	LCG	TCG	VCG
TK1_WB.P	0.300	1.025	16.62	13.079p	1.807p
TK2_PO.P	0.250	0.840	17.32	8.338p	3.427p
TK3_PO.P	0.980	0.840	54.65	4.091a	4.135p
TK4_PO.S	0.980	0.840	54.65	4.091a	4.135p
TK5_PO.P	1.000	0.840	34.66	0.465a	3.666p
TK6_PO.S	1.000	1.025	62.29	0.465a	3.066p
TK7_PO.P	0.980	0.840	24.13	7.345a	4.571p
TK8_PO.S	0.980	0.840	24.13	7.345a	4.571p
TK9_PO.P	0.980	0.840	37.71	21.909a	4.095p
TK10_PO.S	0.980	0.840	37.71	21.909a	4.095p
TK11_PO.P	0.980	0.840	23.84	26.094a	2.708p
TK12_PO.S	0.980	0.840	23.84	26.094a	2.708p
TK13_FW.S	0.980	1.000	16.56	17.370p	1.311p
TK14_FW.S	0.980	1.000	16.56	17.370p	1.311p
CPR_OIL.P	0.500	0.890	0.62	11.185a	0.889p
SLUDGE.S	0.223	1.000	0.77	11.095a	1.313a
SEWAGE.S	0.100	0.890	0.49	18.899a	5.331a
CONTROL.C	0.373	1.025	64.35	0.170a	0.624a
Permeability overrides	0.850				
FOAM.P	0.980	0.840	9.58	18.888a	1.493p
Total Tanks			500.48	4.231a	0.102p
Total Weight			2,190.45	3.018a	0.030a
Displ (MT)				LCG	TCG
HULL	1.025	2,190.28	2.037a	0.089a	2.775
Righting Arms			0.401	0.008a	
Distances in METERS					Moments in m.-MT.

FREEBOARD STATUS

USK DRAFT draft: 4.358 @ 30.25F, 4.741 @ 24.63a
 Trim: Aft 0.383/54.875, Heel: Stbd 1.10 deg.
 Least freeboard is 2.702 m. located at 32.138a
 Least extra freeboard (to margin line) is 2.426 m. located at 32.138a

01/21/09 08:53:40 STX Canada Marine, Inc.
 SHS 11.50 COGS JOHN P. Tuilly
 HQ.403 - COMPT 43-52 @ 3.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.383/54.875, Heel: Stbd 1.10 deg., VCG = 5.624

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft--Weight (MT)--LCG--VCG--cm--LCF--cm trim--GML--GMT
 4.608 2,190.28 3.037a 2.775 7.12 5.676a 29.55 74.03 1.004
 Distances in METERS--Specific Gravity = 1.025--Moment in m.-MT.
 Trim is per 54.88m.
 Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 3.018a TCG = 0.030a VCG = 5.624
 Free Surface Adjustment: 0.534
 Adjusted CG: LCG = 3.022a TCG = 0.019a VCG = 6.157

Origin	Degree of	Displacement	Righting Arms	Flood Pt
Depth	Trim	Heel	Weight (MT)	Area
0.554	0.41a	1.10a	2,190.70	0.000
0.544	0.40a	1.09a	2,190.43	0.000
4.503	0.40a	1.09a	2,190.06	0.000
4.452	0.39a	1.08a	2,190.45	0.000
4.449	0.37a	1.10a	2,190.41	0.000
4.391	0.34a	1.09a	2,190.41	0.000
4.330	0.30a	1.10a	2,190.46	0.000
4.293	0.25a	1.09a	2,190.46	0.000
4.163	0.20a	1.10a	2,190.43	0.000
4.062	0.13a	1.09a	2,190.43	0.000
4.060	0.13a	1.09a	2,190.44	0.000
3.943	0.07a	1.09a	2,190.46	0.000
3.816	0.03a	1.09a	2,190.46	0.000
3.678	0.02a	1.10a	2,190.46	0.000
3.580	0.02a	1.10a	2,190.50	0.000
3.530	0.02a	1.10a	2,190.51	0.000
3.371	0.05a	1.10a	2,190.64	0.000
3.203	0.10a	1.10a	2,190.61	0.000
3.024	0.18a	1.10a	2,190.52	0.000
2.834	0.24a	1.10a	2,190.30	0.000
2.642	0.34a	1.10a	2,189.97	0.000
2.591	0.36a	1.09a	2,190.04	0.000

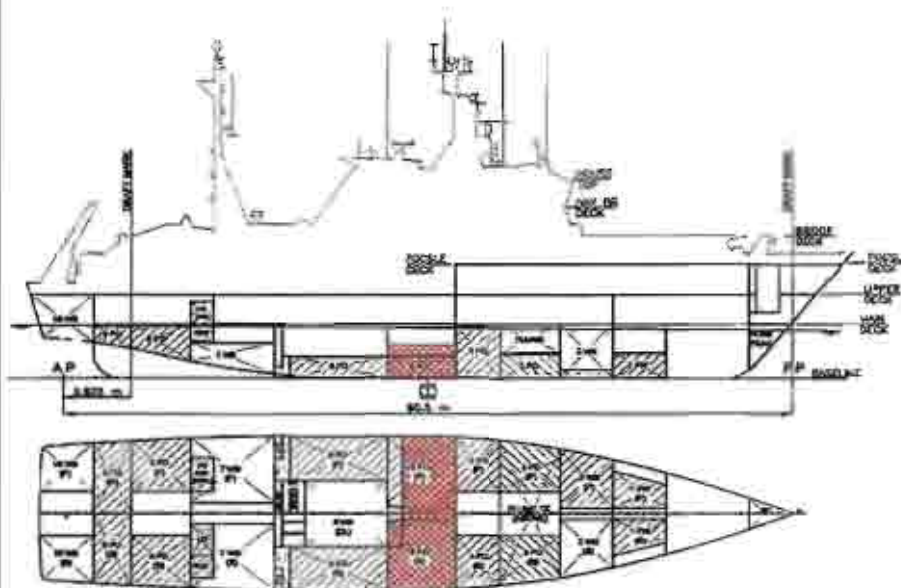
Distances in METERS--Specific Gravity = 1.025--Area in m.-Rad.

Note: The Weight and Center of Gravity used for the righting arms above include tank loads. However, the tank load numbers were NOT ALLOWED TO SHIFT with heel and trim changes. Rather, a constant Free Surface Moment of 1158.0 m.-MT was applied to artificially modify the CG.

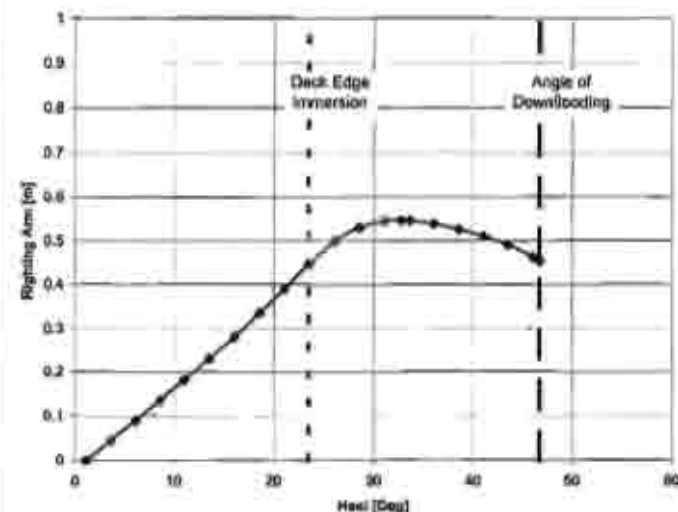
Critical Point: LCG = 3.022a TCG = 0.019a VCG = 6.157
 (1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300

Damage Case No.403 - Comp 43-52 @ 3.0 m

IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG. 48



Damage Case No.403 - Comp 43-52 @ 3.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) GM at Equilibrium	>	0.050 m	1.004 m
(2) Absolute Angle at Equilibrium	<	13.00 Deg	1.10 °
(3) Absolute Angle at Deck/margin Inversion	>	0.00 Deg	23.34 °

NOTE: Helicopter included in case that depicted in diagram above.

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.404 - COMPT 43-52 @ 4.0M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 4.506 @ 30.25d, 4.789 @ 24.63a
Trim: Aft 0.278/54.875, Heel: Stbd 1.58 deg.

Part			Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP			1,624.60	2.595a	0.048a	6.457	
APT STORES			5.00	22.350a	1.330p	6.556	
FWD STORES			3.00	30.000a	0.000	8.500	
Galley Stores			14.00	20.250a	0.000	6.000	
Gas in Jettisonable TK			0.68	20.250a	6.100p	11.000	
40 Crew and Effects @ 125			5.00	0.000	0.000	11.000	
UPPER DECK MACHINERY			17.10	19.490a	0.030a	6.130	
UPPER DECK CONTAINER			4.35	26.100a	4.650p	6.600	
POCSLE DECK MACHINERY			8.98	6.320a	4.670a	11.000	
POCSLE DECK CONTAINER			3.86	14.350a	5.480a	11.300	
HELICOPTER			2.50	21.000a	0.000	14.300	
ROSETTE EQUIPMENT			0.90	0.700a	5.600a	9.000	
Total Fixed			1,689.97	2.659a	0.069a	6.563	
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSH
TK2_KB.P	0.200	1.025	16.62	13.083a	1.798p	1.019	16.00
TK3_FO.P	0.950	0.840	17.32	8.344a	3.419p	1.502	16.86
TK4_FO.P	0.980	0.840	54.66	4.092a	4.131p	2.885	27.17
TK4_FO.S	0.980	0.840	54.66	4.091a	4.158a	2.885	27.11
TK5_FO.2	1.000	0.840	34.66	0.465a	3.066p	3.247	0.00
TK5_FO.S	1.000	1.025	42.29	0.463a	3.066a	1.248	0.03
TK6_FO.P	0.980	0.840	24.13	7.333a	4.566p	1.461	7.75
TK6_FO.S	0.980	0.840	24.13	7.333a	4.613a	1.460	7.90
TK8_FO.P	0.980	0.840	37.71	21.906a	4.069p	3.829	17.34
TK8_FO.S	0.980	0.840	37.72	21.905a	4.135a	3.829	17.43
TK9_FO.P	0.980	0.840	23.84	26.093a	2.723p	4.098	10.88
TK9_FO.S	0.980	0.840	23.85	26.093a	2.804a	4.098	10.90
TK1_FW.P	0.980	1.000	16.56	17.373a	1.507p	1.322	5.46
TK1_FW.S	0.980	1.000	16.56	17.366a	1.528a	1.322	3.95
CPF_OIL.P	0.500	0.890	0.62	11.125a	0.883p	0.435	0.50
SLUDGE.S	0.223	1.000	2.77	11.091a	1.325a	0.405	1.10
SEWAGE.S	0.100	0.890	0.49	18.696a	5.344a	3.285	0.77
CONTROL.C	0.702	1.025	121.32	0.170a	0.577a	2.879	846.91
Permeability override:	0.850						
PODAY.P	0.980	0.840	9.58	18.688a	3.490p	5.929	3.24
Total Tanks			557.47	3.814a	0.035p	2.621	1121.19
Total Weight			2,247.44	2.945a	0.043a	5.570	
			Displ (MT)	LCG	TCG	VCG	Reflnt
HULL		1.025	2,247.39	2,959a	0.119a	2.823	-4.644
Righting Arms:				0.000	0.000a		
Distances in METERS							Moments in m.-MT

FREEBOARD STATUS
USK DRAFT draft: 4.506 @ 30.25d, 4.785 @ 24.63a
Trim: Aft 0.278/54.875, Heel: Stbd 1.58 deg.
Least freeboard is 2.614 m. located at 32.130a
Least extra freeboard (to margin line) is 2.539 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.404 - COMPT 43-52 @ 4.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 0.278/54.875, Heel: Stbd 1.58 deg., VCG = 5.570

LCP	Displacement	Buoyancy-Ctr.	Weight/	Moment/		
Draft	Weight(MT)	LCG	VCG	cm trim	GML	GMT
4.688	2,247.39	2.959a	2.823	7.15	5.596a	29.88 72.96 1.034
Distances in METERS		Specific Gravity = 1.025		Moment in w. MT.		
		Trim is per 54.88m.				
Draft is from USK DRAFT.						
True Free Surface included.						

RIGHTING ARMS vs HEEL ANGLE
Total CG: LCG = 2.945a TCG = 0.043a VCG = 5.570
Free Surface Adjustment: 0.499
Adjusted CG: LCG = 2.948a TCG = 0.029a VCG = 6.069

Origin	Degrees of		Displacement	Righting Arms		Flood Pt	
Depth	Trim	Heel	Height (MT)	in Trim	in Heel	Area	Height
4.644	0.29a	1.58a	2,247.47	0.000	0.000	0.0000	6.419(1)
4.631	0.29a	4.08a	2,247.47	0.000	0.047	0.0010	6.102(1)
4.608	0.29a	6.58a	2,247.24	0.000	0.095	0.0041	5.777(1)
4.574	0.28a	9.08a	2,247.44	0.000	0.143	0.0093	5.442(1)
4.528	0.26a	11.58a	2,247.44	0.000	0.192	0.0166	5.102(1)
4.471	0.23a	14.08a	2,247.44	0.000	0.243	0.0261	4.755(1)
4.403	0.20a	16.58a	2,247.44	0.000	0.297	0.0379	4.403(1)
4.322	0.15a	19.08a	2,247.44	0.000	0.354	0.0521	4.048(1)
4.229	0.10a	21.58a	2,247.44	0.000	0.414	0.0688	3.691(1)
4.168	0.07a	23.08a	2,247.44	0.000	0.450	0.0798	Waggy Imm.
4.121	0.04a	24.08a	2,247.44	0.000	0.476	0.0882	3.333(1)
4.003	0.01a	26.58a	2,247.44	0.000	0.526	0.1101	2.970(1)
3.876	0.03a	29.08a	2,247.44	0.000	0.557	0.1337	2.601(1)
3.737	0.03a	31.58a	2,247.56	0.000	0.572	0.1584	2.226(1)
3.611	0.01a	33.71a	2,247.95	0.000	0.576	0.1797	1.906(1)
3.508	0.01a	34.08a	2,247.47	0.000	0.576	0.1835	1.648(1)
3.549	0.00a	34.71a	2,247.48	0.000	0.579	0.1898	1.754(1)
3.429	0.04a	36.58a	2,247.81	0.000	0.571	0.2085	1.468(1)
3.259	0.10a	39.08a	2,247.51	0.000	0.561	0.2332	1.086(1)
3.079	0.18a	41.58a	2,247.46	0.000	0.548	0.2574	0.703(1)
2.891	0.27a	44.08a	2,247.06	0.000	0.530	0.2810	0.320(1)
2.734	0.35a	46.15a	2,247.62	0.000	0.508	0.2996	-0.000(1)
Distances in METERS-----Specific Gravity = 1.025-----Area in m.-Rad.							

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 1121.2 m.-MT was applied to artificially modify the CG.

Critical Point: LCG = 2.948a TCG = 0.029a VCG = 6.069
(1) CAPTAIN'S ROOM WINDOWN FLOOD 7.630a 7.000 11.300

01/21/08 08:53:40 STX Canada Marine, Inc.
 GHS 11.50 COGS JOHN P. Tully
 NO.405 - COMPT 43-52 & 4.5M - LOADING DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
 USK DRAFT draft: 4.588 @ 30.25t, 4.807 @ 24.43t
 Trim: Aft 0.227/54.875, Heel: Stbd 1.81 deg.

Part		Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP		1,624.60	2.585m	0.240m	8.437	
APT STORAGE		5.00	22.350m	1.330m	6.514	
FWO STORAGE		2.00	30.500m	0.000	8.000	
Galley Stores		14.00	28.250m	0.000	8.000	
Gas in Jettisonable Tank		0.88	20.250m	4.100p	11.000	
40 Crane and Effects @ 125		5.00	0.000	0.000	11.000	
UPPER DECK MACHINERY		17.10	19.490m	0.000m	8.130	
UPPER DECK CONTAINER		4.35	24.100m	4.250p	8.800	
PODS DECK MACHINERY		8.88	8.320m	4.670m	11.000	
PODS DECK CONTAINER		3.84	14.350m	5.480m	11.300	
HELICOPTER		2.50	21.000m	0.000	14.300	
ROCKET EQUIPMENT		0.90	0.700m	5.600m	9.000	
Total Flood		1,689.97	2.650m	0.240m	8.513	
	Load	Spdz	Weight (MT)	LCG	TCG	VCG
TK2_WB.P	0.200	1.025	16.42	13.2842	1.794p	1.025
TK3_FO.P	0.990	0.940	17.32	8.3162	3.419p	1.508
TK4_FO.P	0.980	0.940	30.45	4.8522	4.125p	2.888
TK4_FO.S	0.990	0.940	34.85	4.5512	4.180a	3.287
TK5_FO.P	1.000	0.940	34.86	5.8434	3.964p	1.244
TK5_FO.S	1.000	1.025	42.29	0.4484	3.964a	1.244
TK6_FO.P	0.980	0.940	24.13	7.3304	1.985p	1.443
TK6_FO.S	0.980	0.940	24.13	7.3394	4.615a	1.443
TK8_FO.P	0.980	0.940	37.72	21.8054	0.988p	3.229
TK8_FO.S	0.880	0.840	37.72	21.9044	4.137a	3.823
TK9_FO.P	0.980	0.940	23.84	24.2934	2.723p	4.094
TK9_FO.S	0.980	0.940	23.84	24.3924	2.800a	4.094
TK1_FH.P	0.980	1.000	16.56	17.2794	1.506p	1.322
TK1_FH.S	0.980	1.000	16.56	17.3604	1.529a	1.322
CPV_OIL.P	0.330	0.890	0.63	17.1854	0.979p	0.433
SLUGGL.S	0.233	1.000	0.77	17.0234	1.323a	0.405
SEMADE.S	0.100	0.980	0.49	18.6954	5.350a	3.286
CONTRU.S	0.868	1.025	149.96	0.1694	0.2463	3.161
Permeability override:		0.950				
TODAY.P	0.990	0.940	9.58	18.8884	2.449p	5.929
Total Tanker			168.00	3.8354	0.007p	2.700
Total Weight			2,375.97	2.910m	0.243m	5.554
			Displ (MT)	LCG	TCG	VCG
NULL	1.025		2,375.97	2.910m	2.135a	2.916

Distances in METERS, Specific Gravity = 1.025, Moment in m.-MT.

PERFORMANCE STATUS

USK DRAFT draft: 4.588 @ 30.25t, 4.807 @ 24.43t
 Trim: Aft 0.227/54.875, Heel: Stbd 1.81 deg.
 Limit freeboard is 2.572 m. located at 27.130m
 Coast extra freeboard (to margin line) is 2.494 m. located at 22.110m

01/21/08 08:53:40 STX Canada Marine, Inc.
 GHS 11.50 COGS JOHN P. Tully
 NO.405 - COMPT 43-52 & 4.5M - LOADING DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.227/54.875, Heel: Stbd 1.81 deg., VCG = 5.554

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft-Height (MT) LCB VCB cm LCF on trim GML GML
 4.728 2,275.97 2.921m 2.846 7.18 5.567m 30.08 72.47 1.082
 Distances in METERS, Specific Gravity = 1.025, Moment in m.-MT.
 Trim is per 54.88m.
 Draft is from USK DRAFT. True Free Surface Included.

RIGHTING ARMS vs HEEL ANGLES

Total CG: LCG = 2.910m, COG = 0.049m, VCG = 5.554
 Free Surface Adjustment: 0.467
 Adjusted CG: LCG = 2.912m, COG = 0.034m, VCG = 6.040

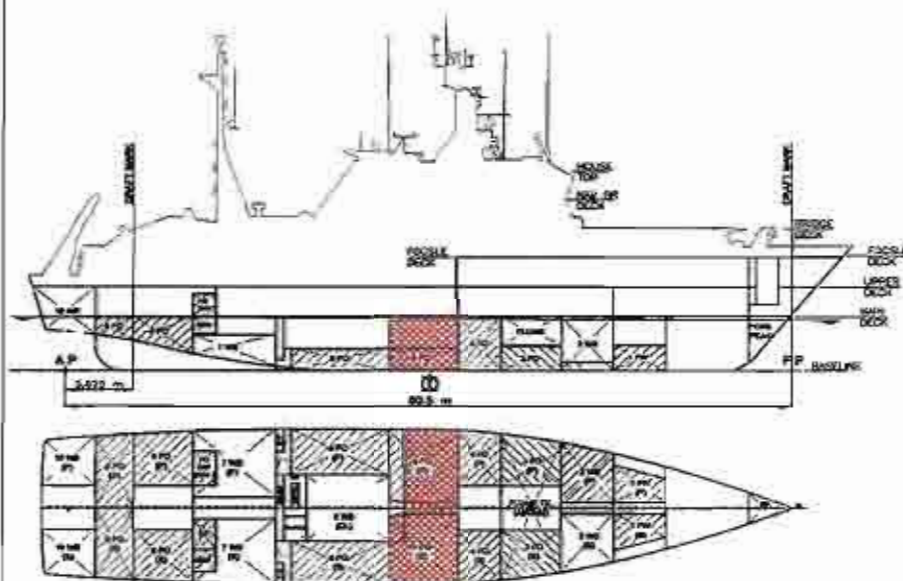
Origin	Degrees of Displacement		Righting Arms		Flood Pt		
Depth	Trim	Heel	Height (MT)	in Trim	in Heel	Area	Height
4.488	0.21a	1.81a	2,275.99	0.000	0.000	0.0000	6.393(1)
4.475	0.21a	4.31a	2,275.99	0.000	0.048	0.0010	6.025(1)
4.450	0.23a	6.81a	2,276.00	0.000	0.096	0.0042	5.708(1)
4.414	0.22a	9.31a	2,275.95	0.000	0.145	0.0094	5.375(1)
4.368	0.20a	11.81a	2,275.97	0.000	0.195	0.0168	5.033(1)
4.305	0.18a	14.31a	2,275.97	0.000	0.247	0.0264	4.685(1)
4.239	0.15a	16.81a	2,275.97	0.000	0.302	0.0394	4.334(1)
4.167	0.10a	19.31a	2,275.97	0.000	0.360	0.0538	3.979(1)
4.242	0.05a	21.81a	2,275.97	0.000	0.422	0.0699	3.621(1)
4.221	0.03a	22.77a	2,275.97	0.000	0.444	0.0771	Marg Inn.
4.153	0.00	24.31a	2,275.97	0.000	0.485	0.0906	3.263(1)
4.034	0.04a	26.81a	2,275.97	0.000	0.533	0.1118	2.899(1)
3.806	0.03a	29.31a	2,275.53	0.000	0.563	0.1357	2.528(1)
3.746	0.05a	31.81a	2,276.16	0.000	0.578	0.1406	2.151(1)
3.419	0.02a	34.31a	2,276.21	0.000	0.582	0.1460	1.771(1)
3.579	0.01a	36.81a	2,275.96	0.000	0.582	0.1492	1.476(1)
3.459	0.03a	39.31a	2,276.35	0.000	0.578	0.1513	1.189(1)
3.288	0.10a	39.31a	2,276.05	0.000	0.569	0.1563	1.006(1)
3.108	0.15a	41.81a	2,276.01	0.000	0.558	0.1609	0.622(1)
2.920	0.19a	44.31a	2,275.52	0.000	0.539	0.1649	0.237(1)
2.805	0.15a	46.81a	2,275.97	0.000	0.523	0.1660	-0.000(1)

Distances in METERS, Specific Gravity = 1.025, Area in m.-Rad.

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 1107.8 m.-MT was applied to artificially modify the CG.

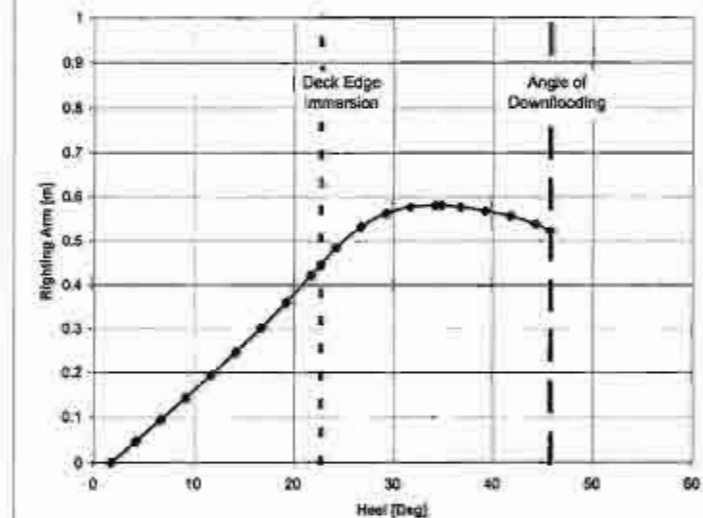
Critical Point: LCF TCG VCG
 (1) CAPTAIN'S ROOM WINDS FLOOD 7.630m 7.000 11.300

Damage Case No.405 - Comp 43-52 @ 4.5 m
IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.46



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.405 - Comp 43-52 @ 4.5 m



DAMAGE STABILITY CRITERIA			
	Min/Max	Attained	
(1) GZ at Equilibrium	> 0.050 m	1.083 F	
(2) Absolute Angle at Equilibrium	< 15.00 deg	1.91 F	
(3) Absolute Angle at Deck/margin Immersion	> 0.00 deg	22.77 F	

01/21/99 06:53:40 STX Canada Marine, Inc.
 0000 JOHN P. Tully
 NO.406 - COMPT 43-52 @ 4.75m - LOADLINE DEPARTURE CONDITION

WEIGHTS AND DISPLACEMENT STATUS
 USK DRAFT draft: 4.416 @ 22.250, 4.417 @ 24.416
 Trim: Att 0.201/14.875, Heel: Stead 1.87 deg.

Part	Weight (MT)	LCG	TCG	VCG			
LIGHT SHIP	1,424.00	2.591a	0.048a	8.437			
RT STORES	5.00	22.300a	3.350a	8.506			
FW STORES	3.20	30.000a	0.000	8.500			
Galley Stores	11.00	25.200a	0.000	8.000			
Sea in Jettisonable TX	6.88	20.250a	8.100a	11.900			
48 Case and Efforts & 1st	5.00	8.000a	0.000	11.000			
UPPER DECK MACHINERY	17.10	18.490a	0.150a	8.130			
UPPER DECK CONTAINER	4.35	28.100a	4.850a	8.400			
POSSIBLE DECK MACHINERY	8.99	8.110a	4.470a	11.000			
POSSIBLE DECK CONTAINER	3.86	14.300a	5.480a	11.300			
HELICOPTER	2.50	21.400a	0.000	14.300			
ROSETTE EQUIPMENT	0.90	0.700a	5.400a	9.000			
Total Fixed----->	1,899.97	2.653a	0.068a	8.543			
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	TRM
TNS_HL.P	0.100	1.025	16.62	13.000a	1.793a	1.020	13.86
TNS_FU.P	0.550	0.840	17.32	8.347a	3.413a	1.523	18.34
TNS_FU.P	0.940	0.840	54.65	4.052a	4.128a	2.88a	28.95
TNS_FU.S	0.980	0.840	54.65	4.052a	4.151a	2.98a	28.51
TNS_FU.P	1.000	0.840	24.84	0.465a	1.086a	1.248	0.40
TNS_FU.S	1.000	1.025	42.29	0.463a	1.086a	1.248	0.42
TNS_FU.P	0.980	0.840	24.12	7.322a	4.165a	1.441	3.56
TNS_FU.S	0.980	0.840	24.13	7.327a	4.161a	1.441	3.72
TNS_FU.P	0.980	0.840	37.72	21.903a	4.157a	3.829	12.31
TNS_FU.S	0.980	0.840	37.72	21.904a	4.157a	3.829	13.39
TNS_FU.P	0.980	0.840	23.25	24.093a	2.721a	8.094	8.31
TNS_FU.S	0.980	0.840	23.24	24.092a	2.804a	4.009	8.23
TNS_FU.P	0.980	1.000	16.56	17.375a	1.906a	1.322	4.38
TNS_FU.S	0.980	1.000	16.56	17.377a	1.930a	1.323	3.52
CPR_OIL.P	0.100	0.830	0.62	11.100a	0.878a	0.420	0.50
SLUDGE.S	0.222	1.000	9.77	11.084a	1.333a	3.405	1.14
SEWAGE.S	0.100	0.890	0.49	18.494a	1.357a	3.284	2.77
CONTROL.C	0.940	1.025	18.18	0.164a	0.167a	2.23a	0.40.99
Permeability override: 0.950							
FUDAT.P	0.990	0.840	9.58	18.480a	3.489a	5.823	2.78
Total Tanks----->			400.32	3.583a	0.000	2.746	687.61
Total Weight----->			2,300.29	0.493a	0.061a	8.548	
			Displ (MT)	LCG	TCG	VCG	TRM
HULL	1.025		2,290.00	2.902a	0.139a	2.898	-4.710

Distances in METERS ----- Specific Gravity = 1.025 ----- Areas in m.-Rad.

WEIGHTS AND DISPLACEMENT STATUS

USK DRAFT draft: 4.416 @ 20.250, 4.417 @ 24.416
 Trim: Att 0.201/14.875, Heel: Stead 1.87 deg.
 Least freeboard is 2.558 m. located at 22.130a
 Least extra freeboard (to margin line) is 2.482 m. located at 22.130a

01/21/99 06:53:40 STX Canada Marine, Inc.
 0000 JOHN P. Tully
 NO.406 - COMPT 43-52 @ 4.75m - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
 Trim: Att 0.201/14.875, Heel: Stead 1.87 deg., VCG = 8.548

LCG Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft--Weight (MT) LCG--TCG--VCG--LCG--on trim--TRM--COG
 4.417 2,290.00 2.902a 2.898 1.1a 5.547a 10.14 72.22 1.262
 Distances in METERS ----- Specific Gravity = 1.025 ----- Moment in m.-MT.
 Trim is per 54.88a.
 Draft is from USK DRAFT. True Free Surface Included.

RIGHTING ARMS vs HEEL ANGLE
 Total CG: LCG = 2.493a TCG = 0.011a VCG = 8.548
 Free Surface Adjustment: 0.305
 Adjusted CG: LCG = 2.894a TCG = 0.011a VCG = 8.852

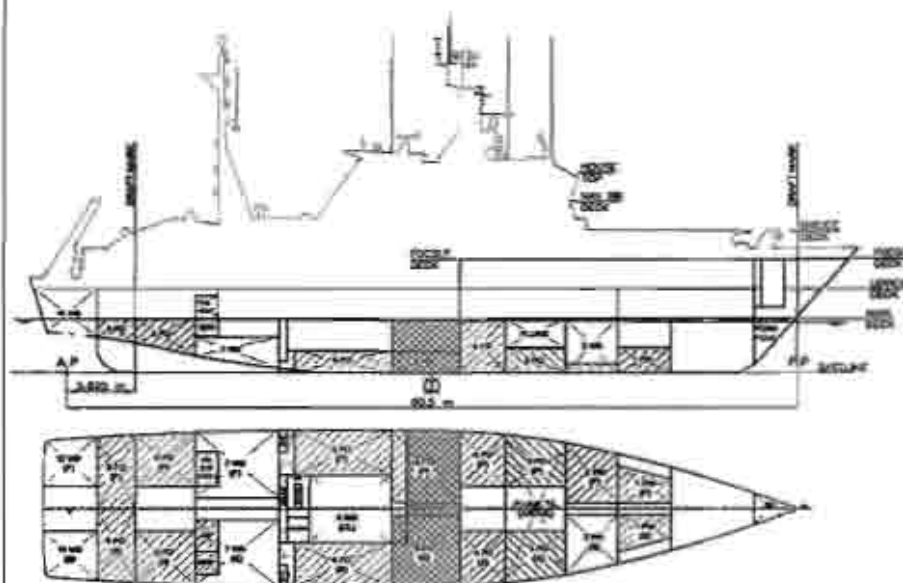
Origin	Degrees of	Displacement	Righting Arms	Flood Pt
Depth	Trim	Heel	Weight (MT)	Area
0.711	0.21a	1.87a	2,290.31	0.000
4.417	0.21a	4.47a	2,290.31	0.000
4.472	0.21a	6.87a	2,290.32	0.000
4.635	0.20a	9.37a	2,289.80	0.000
4.688	0.18a	11.87a	2,290.29	0.000
4.730	0.15a	14.37a	2,290.28	0.000
4.759	0.12a	16.87a	2,290.29	0.000
4.778	0.09a	19.37a	2,290.29	0.000
4.780	0.06a	21.87a	2,290.29	0.000
4.789	0.01a	24.37a	2,290.29	0.000
4.791	0.022	26.87a	2,290.29	0.000
4.803	0.045	29.37a	2,290.29	0.000
4.824	0.070	31.87a	2,289.97	0.000
4.788	0.062	34.37a	2,290.55	0.000
4.837	0.02f	36.87a	2,290.54	0.000
4.477	0.03a	39.37a	2,290.50	0.000
4.468	0.03a	41.87a	2,290.25	0.000
4.307	0.10a	44.37a	2,290.53	0.000
4.127	0.19a	46.87a	2,290.29	0.000
3.940	0.29a	49.37a	2,290.33	0.000
2.841	0.34a	51.87a	2,290.57	0.000

Distances in METERS ----- Specific Gravity = 1.025 ----- Areas in m.-Rad.

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 697.6 m.-MT was applied as artificially modify the CG.

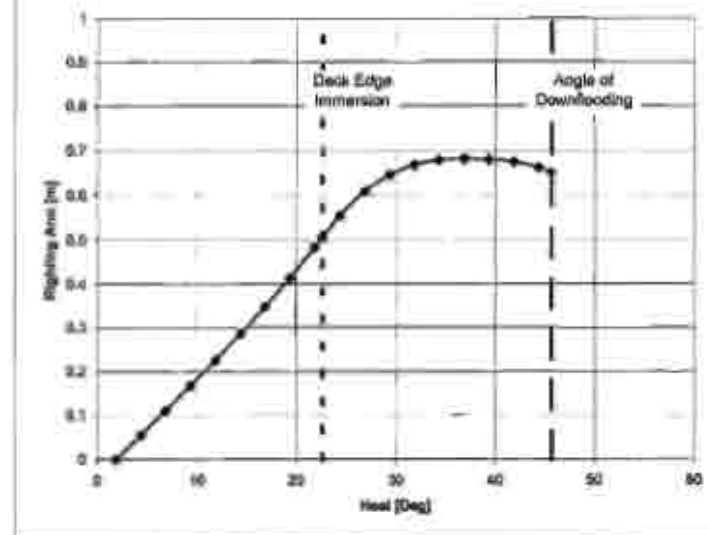
Critical Point: LCG--TCG--VCG
 (1) CAPTAIN'S ROOM WINDOW FLOOD 7.439a 7.900 11.300

Damage Case No.406 - Comp 43-52 @ 4.75 m
IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.49



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.406 - Comp 43-52 @ 4.75 m



DAMAGE STABILITY CRITERIA			Min/Max	Attained
(1) GM at Equilibrium	>	0.050	m	1.583
(2) Absolute Angle at Equilibrium	<	15.00	deg	1.07
(3) Absolute Angle at Deck/Margin Immersion	>	0.00	deg	22.62

01/21/09 08:53:40 STX Canada Marine, Inc.
 GRS 11.50 CCGE JOHN P. Tully
 NO.500 - COMPT 28-43 @ 1.1m - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
 USK DRAFT 4.171 @ 30.25t, 4.491 @ 24.5t
 Trim: Aft 0.520/54.875, Heel: Port 1.12 deg.

Part	Weight (MT)	LCG	TCG	UCG	Weight (MT)	LCG	TCG	UCG
LIGHT SHIP	1,624.60	2.395a	0.000a	0.457				
APT STORES	3.00	22.350a	1.330p	0.354				
SWD STORES	3.00	30.000a	0.000	0.500				
Galley Stores	4.00	20.250a	0.000	0.300				
Gar to Jettisonable T8	0.89	20.250a	0.100p	11.000				
40 Crew and Efforts @ 125	3.00	0.000	0.000	11.000				
UPPER DECK MACHINERY	17.10	19.490a	0.000a	0.130				
UPPER DECK CONTAINER	4.35	14.100a	0.450p	0.600				
PODS DECK MACHINERY	8.98	8.380a	0.470a	11.000				
PODS DECK CONTAINER	3.88	14.350a	0.480a	11.300				
HELICOPTER	2.00	21.000a	0.000	14.300				
ROSETTE EQUIPMENT	0.90	0.700a	0.400a	0.020				
Total Fixed	1,649.91	2.455a	0.000a	0.543				
Load	Spd	Weight (MT)	LCG	TCG	UCG	Spd		
TW2_HR.F	0.200	1.025	16.41	13.047a	1.447p	1.025	17.11	
TW2_FH.F	0.950	0.940	17.32	8.377a	3.440p	1.502	14.21	
TW4_FH.F	0.980	0.940	54.43	4.000a	0.130p	2.883	27.33	
TW4_FH.S	0.940	0.940	54.43	0.000a	4.170a	0.883	37.14	
TW5_FH.F	1.000	0.940	34.66	0.485a	3.060p	1.248	0.30	
TW5_FH.S	1.000	0.940	34.66	0.485a	3.060a	1.248	0.30	
TW6_FH.F	0.980	0.940	24.13	7.351a	4.607p	1.490	16.25	
TW6_FH.S	0.493	1.025	14.75	7.322a	4.380a	1.178	29.23	
TW8_FH.F	0.980	0.940	27.71	21.910a	4.120p	3.229	27.85	
TW8_FH.S	0.980	0.940	27.71	21.911a	4.095a	3.329	27.00	
TW9_FH.F	0.980	0.940	21.55	26.095a	2.790p	4.394	18.38	
TW9_FH.S	0.980	0.940	21.54	26.095a	2.710a	4.095	19.12	
TK1_FH.F	0.980	1.000	16.16	17.342a	1.320p	1.320	4.48	
TK1_FH.S	0.980	1.000	16.16	17.347a	1.311a	1.320	5.00	
CPH_OIL.F	0.500	0.650	0.62	11.180a	0.971p	0.430	0.50	
SEURGE.S	0.223	1.000	0.77	11.104a	1.216a	0.405	0.81	
SEURGE.S	0.100	0.630	0.69	18.704a	0.269a	3.285	0.77	
ENGINE_RN.C	0.028	1.025	12.38	7.189a	0.263p	1.301	100.79	
Permeability coefficient	0.850							
FOUNT.F	0.960	1.840	9.58	10.805a	3.507p	5.500	3.45	
Total Tanks			431.50	4.921a	0.410p	2.550	409.82	
Total Weight			2,121.48	2.319a	0.000p	3.731		
HULL	1.025		2,121.48	2.319a	0.000p	2.770	-4.443	

Righting Arm: 0.000 0.000p
 Distances in METERS: 0.000 0.000p

REBOARD STATUS
 USK DRAFT 4.171 @ 30.25t, 4.491 @ 24.5t
 Trim: Aft 0.520/54.875, Heel: Port 1.12 deg.
 Least freeboard is 2.731 m. located at 32.130a
 Least extra freeboard (to margin line) is 2.855 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
 GRS 11.50 CCGE JOHN P. Tully
 NO.500 - COMPT 28-43 @ 1.1m - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
 Trim: Aft 0.520/54.875, Heel: Port 1.12 deg., VCG = 3.731

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft---Weight (MT)---LCG---VCG---CG---LCF---CG trim---GML---GMS
 4.113 2,121.48 3.148a 3.730 7.09 3.771a 29.05 15.14 1.185
 Distances in METERS---Specific Gravity = 1.025---Moment in m.-MT.
 Trim is per 54.88m.

Draft is from DSK DRAFT. True Free Surface Included:

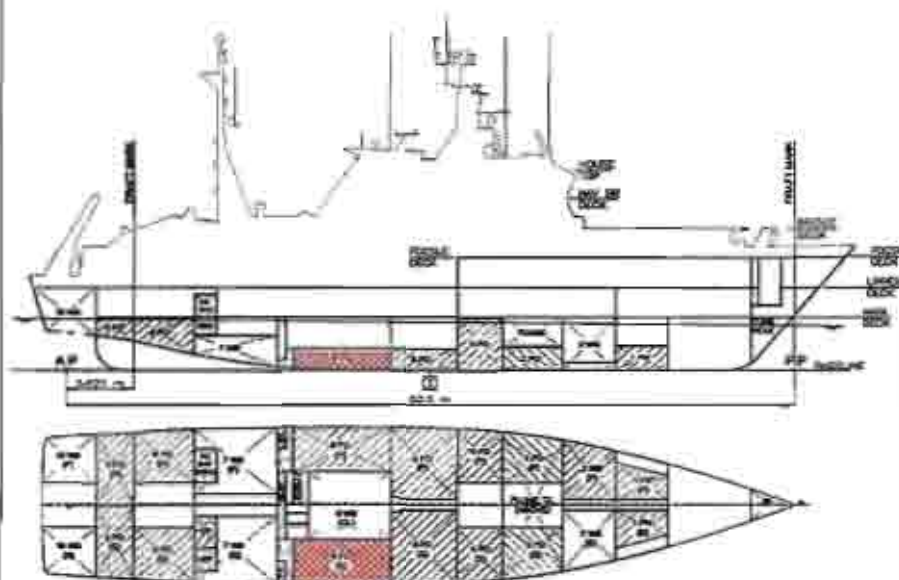
RIGHTING ARM w/ HEEL ANGLE
 Total CG: LCG = 3.119a VCG = 0.029p VCG = 3.731
 Free Surface Adjustment: 0.193
 Adjusted CG: LCG = 3.131a VCG = 0.025p VCG = 3.924

Origin	Degree of Displacement			Righting Arm			Flood Pt
Depth	Trim	Heel	Height (MT)	in Trim	in Heel	Area	Height
4.443	0.35a	1.12p	2,121.79	0.000	0.000	0.0000	6.445(1)
4.433	0.34a	1.62p	2,121.29	0.000	0.057	0.6012	6.330(1)
4.413	0.34a	4.12p	2,121.47	0.000	0.115	0.0090	6.095(1)
4.380	0.32a	0.62p	2,121.48	0.000	0.172	0.0112	5.872(1)
4.340	0.30a	11.12p	2,121.47	0.000	0.233	0.0200	5.332(1)
4.280	0.16a	18.62p	2,121.47	0.000	0.291	0.0304	4.965(1)
4.223	0.42a	18.12p	2,121.47	0.000	0.352	0.0450	4.634(1)
4.147	0.35a	18.62p	2,121.48	0.000	0.417	0.0622	4.278(1)
4.058	0.30a	21.12p	2,121.47	0.000	0.483	0.0818	3.920(1)
3.956	0.23a	23.62p	2,121.48	0.000	0.549	0.1043	3.562(1)
3.932	0.22a	24.16p	2,121.47	0.000	0.563	0.1096	3.445(1)
3.839	0.16a	26.12p	2,121.48	0.000	0.610	0.1296	3.204(1)
3.710	0.11a	28.62p	2,121.48	0.000	0.652	0.1572	2.842(1)
3.571	0.08a	31.12p	2,121.48	0.000	0.675	0.1863	2.473(1)
3.423	0.07a	33.62p	2,121.06	0.000	0.685	0.2160	2.103(1)
3.321	0.00a	35.05p	2,121.58	0.000	0.686	0.2331	1.890(1)
3.261	0.09a	36.13p	2,121.61	0.000	0.686	0.2459	1.729(1)
3.092	0.12a	38.62p	2,121.59	0.000	0.690	0.2757	1.353(1)
2.912	0.17a	41.12p	2,121.54	0.000	0.670	0.3082	0.975(1)
2.723	0.24a	43.62p	2,121.48	0.000	0.655	0.3343	0.597(1)
2.527	0.33a	46.12p	2,121.48	0.000	0.641	0.3623	0.217(1)
2.415	0.38a	47.34p	2,121.47	0.000	0.626	0.3782	0.000(1)

Distances in METERS---Specific Gravity = 1.025---Area in m.-Rad.
 Note: The Weight and Center of Gravity used for the righting arm 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 409.8 m.-MT was applied to artificially modify the CG.

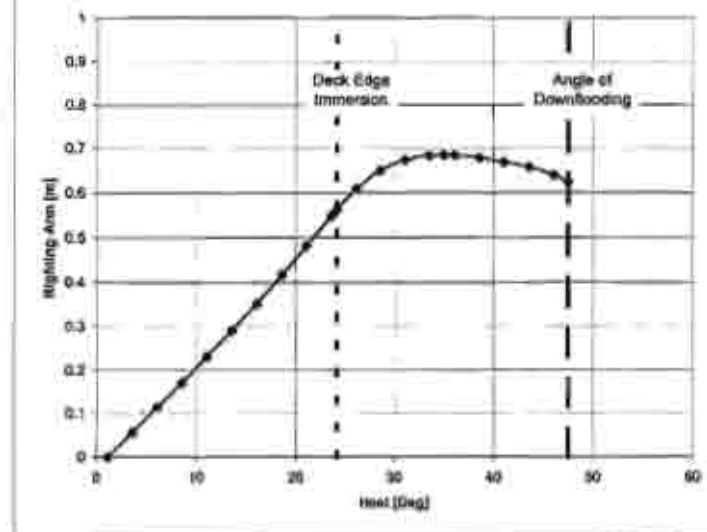
Critical Point: LCG---TCG---UCG
 (1) CAPTAIN'S ROOM WINDOW FLOOD 7.430a 7.090 11.300

Damage Case No.500 - Comp 28-43 @ 1.5 m
IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.48



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.500 - Comp 28-43 @ 1.5 m



CRUVE STABILITY CRITERIA			Min/Max	Attained
(1)	GM at Equilibrium	>	0.050 m	1.895 ?
(2)	Absolute Angle at Equilibrium	<	15.02 deg	2.12 ?
(3)	Absolute Angle at Deck/margin Immersion	>	0.00 deg	24.14 ?

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.501 - COMPT 28-43 @ 2.0M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 4.216 @ 30.25t, 4.761 @ 24.63t
Trim: Aft 0.345/54.875, Heel: Sbd 0.58 deg.

Part	Weight (MT)	LCG	TCG	VCG
LIGHT SHIP	1,624.60	2.595a	0.048a	6.457
AFT STORES	5.00	22.350a	1.330p	6.556
FWO STORES	1.00	30.000a	0.000	8.500
Galley Stores	14.00	20.750a	0.000	8.000
Gas in Jettisonable Tank	0.68	20.250a	0.100p	11.000
40 Crew and Effects @ 125	5.00	0.000	0.000	11.000
UPPER DECK MACHINERY	17.12	19.450a	0.050p	8.130
UPPER DECK CONTAINER	4.35	29.100a	4.650p	8.600
POCSLE DECK MACHINERY	8.98	8.320a	4.670a	11.000
POCSLE DECK CONTAINER	1.86	14.350a	3.480a	11.300
HELICOPTER	2.50	21.000a	0.000	14.300
ROSETTE EQUIPMENT	0.90	0.700a	5.600a	9.000
Total Fixed	1,689.97	2.659a	0.069a	6.543

Load	SpGr	Weight (MT)	LCG	TCG	VCG	PM
TK2 HB.F	0.200	1.025	16.62	13.073a	1.818p	16.48
TK3 FO.F	0.800	0.840	17.32	8.332a	2.437p	17.00
TK4 FO.F	0.980	0.840	24.65	4.490a	4.140p	27.21
TK5 FO.S	0.980	0.840	24.65	4.490a	4.140a	27.25
TK5 FO.F	1.000	0.840	34.66	0.465a	3.060p	0.00
TK5 FO.S	1.000	0.840	34.66	0.465a	3.060a	0.00
TK6 FO.F	0.980	0.840	34.13	7.358a	4.580p	21.11
TK6 FO.S	1.000	1.025	30.03	7.319a	4.598a	0.13
TK8 FO.F	0.980	0.840	37.71	21.912a	4.102p	33.49
TK8 FO.S	0.980	0.840	37.71	21.912a	4.102a	34.21
TK9 FO.F	0.980	0.840	23.85	26.097a	2.740p	43.53
TK9 FO.S	0.980	0.840	23.84	26.096a	2.737a	44.67
TK1 FW.F	0.980	1.000	16.56	17.362a	1.515p	6.70
TK1 FW.S	0.980	1.000	16.56	17.362a	1.523a	6.20
CPP_OIL.F	0.500	0.890	0.62	11.184a	0.897p	0.435
SLUDGE.S	0.223	1.000	0.77	11.102a	1.301a	0.404
SEWAGE.S	0.100	0.890	0.49	18.705a	5.316a	3.265
ENGINE W.C	0.090	1.025	40.19	7.432a	0.199a	1.622
Permeability overboard	0.890					
FOOTING.F	0.980	0.840	5.38	18.685a	3.496p	1.919
Total Tanks			474.60	5.153a	0.173p	972.96
Total Weight			2,164.57	3.205a	0.016a	5.652

Weight (MT)	LCG	TCG	VCG	RefHt
2,164.57	2.235a	0.245a	2.755	-0.500

Righting Arms: 0.000 0.000a
Distances in METERS: -Moment in m.-MT.

FREEBOARD STATUS

USK DRAFT draft: 4.216 @ 30.25t, 4.761 @ 24.63t
Trim: Aft 0.345/54.875, Heel: Sbd 0.58 deg.
Least freeboard is 2.722 m. located at 32.130a
Least extreme freeboard (to margin line) is 2.416 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.501 - COMPT 28-43 @ 2.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 0.345/54.875, Heel: Sbd 0.58 deg., VCG = 5.852

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
Draft---Weight(MT)---LCG---VCG---cm---LCF---cm trim---GML---GML
4.574 2,164.57 3.235a 2.755 7.10 5.760a 29.23 14.09 1.092
Distances in METERS.---Specific Gravity = 1.025---Moment in m.-MT.
Trim is per 54.88m.

Draft is from USK DRAFT. True Free Surface Included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 3.205a TCG = 0.016a VCG = 5.652
Free Surface Adjustment: 0.449
Adjusted CG: LCG = 3.210a TCG = 0.011a VCG = 6.101

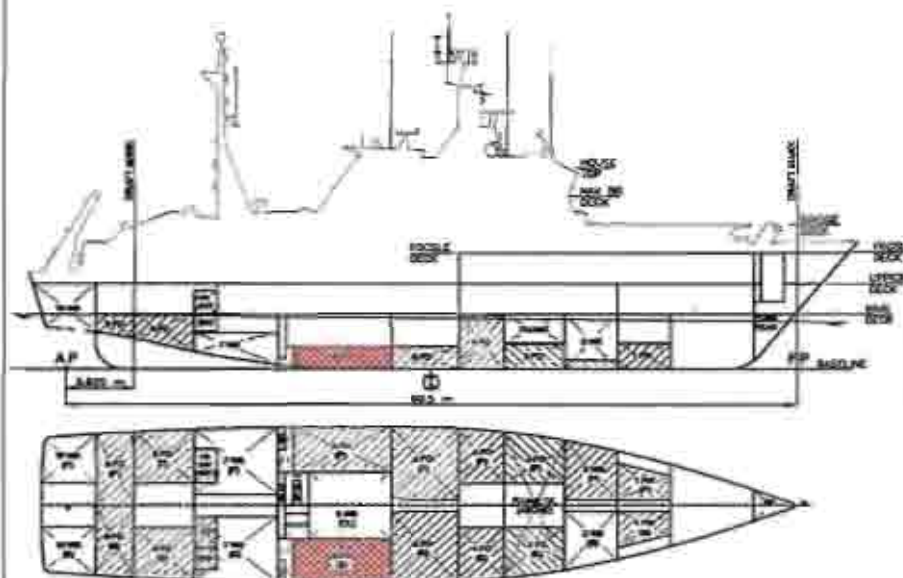
Origin	Progress of	Displacement	Righting Arms	Flood Pt
Depth	Trim	Heel	Weight (MT)	Area
4.502	0.59a	0.58a	2,164.57	0.000
4.494	0.57a	0.58a	2,164.57	0.000
4.474	0.57a	0.58a	2,164.57	0.000
4.446	0.56a	0.58a	2,164.57	0.000
4.407	0.54a	0.58a	2,164.57	0.000
4.336	0.51a	0.58a	2,164.57	0.000
4.294	0.47a	0.58a	2,164.57	0.000
4.220	0.43a	0.58a	2,164.57	0.000
4.134	0.37a	0.58a	2,164.57	0.000
4.035	0.30a	0.58a	2,164.57	0.000
4.018	0.29a	0.58a	2,164.57	0.000
3.922	0.24a	0.58a	2,164.57	0.000
3.797	0.19a	0.58a	2,164.57	0.000
3.662	0.17a	0.58a	2,164.57	0.000
3.517	0.17a	0.58a	2,164.57	0.000
3.479	0.17a	0.58a	2,164.57	0.000
3.361	0.13a	0.58a	2,164.57	0.000
3.196	0.23a	0.58a	2,164.57	0.000
3.020	0.28a	0.58a	2,164.57	0.000
2.834	0.35a	0.58a	2,164.57	0.000
2.641	0.45a	0.58a	2,164.57	0.000
2.536	0.50a	0.58a	2,164.57	0.000

Distances in METERS.---Specific Gravity = 1.025---Area in m.-Rad.

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 474.6 m.-MT was applied to artificially modify the CG.

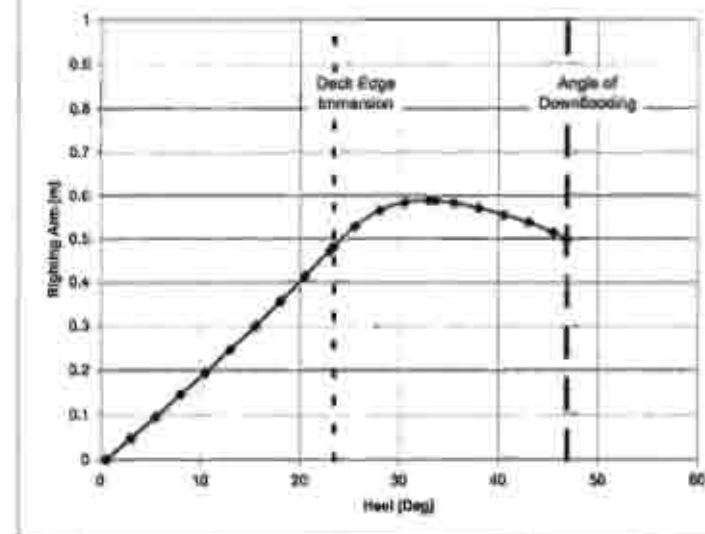
Critical Point: LCG = 3.210a TCG = 0.011a VCG = 6.101
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300

Damage Case No.501 - Comp 28-43 @ 2.0 m
IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.48



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.501 - Comp 28-43 @ 2.0 m



DAMAGE STABILITY CRITERIA			SLA/Max	Attained
(1) Dn at Equilibrium	>	0.050 m		1.032 F
(2) Absolute Angle at Equilibrium	<	15.00 deg		0.36 F
(3) Absolute Angle at Deck/under Immersion	>	0.00 deg		23.46 F

01/21/09 08:51:40 STX Canada Marine, Inc.
CGCS JOHN F. Tully
NO.502 - COMPT 28-43 @ 2.5M - HEADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT: 1.275 @ 30.255, 1.863 @ 24.834
Trim: Aft 0.585/54.875, Heel: Stbd 0.61 deg.

Part	Height (m)	LCG	TCG	VCG
LIGHT SHIP	1.424.00	2.595a	0.048a	4.457
APT STORES	5.00	22.350a	1.330p	6.556
PHD STORES	3.00	30.000a	0.000	8.500
Galley Stores	14.00	20.200a	0.000	6.000
Gas In Jettisonable TA	0.88	30.250a	0.100p	11.000
40 Crew and Effects @ 120	5.00	0.000	0.000	11.000
UPPER COCK MACHINERY	17.10	19.400a	0.050a	8.130
UPPER DECK CONTAINER	4.35	24.100a	4.500p	8.500
POCKET DECK MACHINERY	8.98	8.320a	4.470a	11.000
POCKET DECK CONTAINER	3.88	14.300a	4.480a	11.300
HELICOPTER	2.50	21.000a	0.000	14.300
ROCKET EQUIPMENT	8.90	0.700a	5.600a	8.000
Total Fixed	1,689.97	2.659a	0.069a	6.543

Part	Load	SpG	Weight (MT)	LCG	TCG	VCG	FCM
TKS 05.P	0.200	1.000	16.62	15.072a	1.818p	1.029	16.46
TKS 06.P	0.950	0.840	17.32	8.331a	5.476p	1.507	17.30
TKS 07.P	0.980	0.840	54.65	0.090a	4.138p	2.885	27.20
TKS 08.P	0.980	0.840	54.65	0.090a	4.152a	2.885	27.29
TKS 09.P	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TKS 10.P	1.000	0.840	34.66	0.465a	3.066a	1.248	0.00
TKS 11.P	0.980	0.840	24.13	7.359a	4.580p	1.460	20.59
TKS 12.P	1.000	1.020	38.04	7.318a	6.988a	1.471	0.00
TKS 13.P	0.980	0.840	37.71	21.913a	4.102p	1.829	32.58
TKS 14.P	0.940	0.840	37.71	21.913a	4.122a	1.829	33.33
TKS 15.P	0.980	0.840	23.85	24.097a	2.739p	4.095	41.93
TKS 16.P	0.980	0.840	23.85	24.097a	2.767a	4.095	43.09
TKS 17.P	0.980	1.000	14.56	17.304a	1.513p	1.322	8.63
TKS 18.P	0.980	1.000	14.56	17.304a	1.524a	1.322	5.73
OPP 01.P	0.500	0.890	0.60	11.185a	0.896p	0.435	0.30
ALCOHOL	0.221	1.000	4.77	11.102a	1.301a	0.995	0.97
WHALES	0.105	0.890	0.49	18.706a	5.317a	3.285	0.97
SHORE Mt. C	0.230	1.020	102.65	7.579a	0.113a	2.002	2002.06
Permeability overboard	0.850						
POWDR.P	0.990	0.840	9.58	12.402a	2.499p	0.925	2.48
Total Tons			537.06	5.444a	0.146a	2.401	3279.44
Total Height			5,327.03	3.321a	0.027a	0.568	

Part	Height (m)	LCG	TCG	VCG	Righting
SHLL	1.225	2,227.23	3.368a	0.046a	2.100
Righting Arms			0.000	0.000a	
Distances in METERS					Distances in m.-WT.

FREEBOARD STATUS

DEK DRAFT: 1.178 @ 30.255, 4.893 @ 24.834
Trim: Aft 0.585/54.875, Heel: Stbd 0.61 deg.
Least freeboard is 2.612 m. located at 22.130a
Least extra freeboard (in margin line) is 2.574 m. located at 22.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
CGCS JOHN F. Tully
NO.502 - COMPT 28-43 @ 2.5M - HEADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 0.585/54.875, Heel: Stbd 0.61 deg., VCG = 5.556

LCF	Displacement	Buoyancy-Ctr.	Weight/	Moment/			
Draft	Height (m)	LCG	VCG	LCF	cm trim	cm	cm
1.500	2,227.20	3.360a	2.808	7.12	5.738a	29.40	72.44
Distances in METERS		Specific Gravity = 1.025		Moment in m.-MT.			
Trim is per 54.38m.							

Specific Gravity = 1.025, Moment in m.-WT.
Trim is per 54.88m.

Draft is from USK DRAFT. True Free Surface Included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 3.321a TCG = 0.017a VCG = 5.556

Free Surface Adjustment: 1.024

Adjusted CG: LCG = 3.342a TCG = 0.006a VCG = 6.580

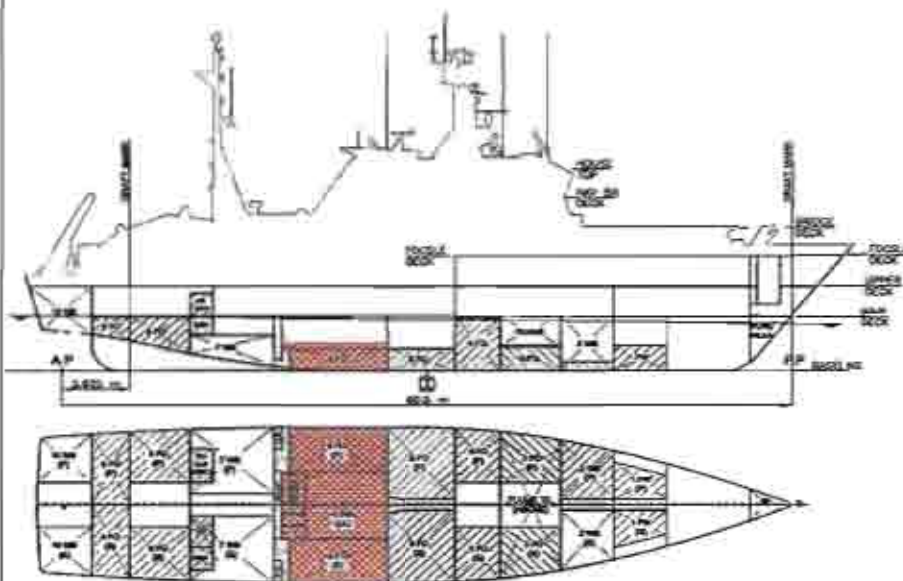
Origin	Depth	Degrees of	Displacement	Righting Arm	Flood %
Trim	heel	Height (m)	in Trim	in Heel	Area
0.000	0.000	2,227.03	0.000	0.000	0.000
4.376	0.63a	2,227.04	0.000	0.000	0.000
4.557	0.63a	2,227.07	0.000	0.001	0.002
4.527	0.62a	2,226.44	0.000	0.078	0.000
4.488	0.60a	2,227.05	0.000	0.107	0.001
4.457	0.58a	2,227.03	0.000	0.137	0.014
4.276	0.54a	2,227.03	0.000	0.169	0.022
4.300	0.50a	2,227.03	0.000	0.205	0.020
4.213	0.41a	2,227.03	0.000	0.344	0.030
4.148	0.41a	2,227.03	0.000	0.372	0.040
4.113	0.39a	2,227.03	0.000	0.264	0.005
4.001	0.34a	2,227.04	0.000	0.320	0.037
3.880	0.31a	2,227.04	0.000	0.334	0.070
3.638	0.30a	2,227.04	0.000	0.335	0.028
3.748	0.30a	2,227.04	0.000	0.331	0.024
3.607	0.21a	2,227.03	0.000	0.316	0.108
3.453	0.39a	2,227.26	0.000	0.293	0.101
3.285	0.40a	2,227.29	0.000	0.263	0.132
3.116	0.47a	2,227.12	0.000	0.230	0.146
2.843	0.56a	2,227.02	0.000	0.199	0.153
2.743	0.46a	2,226.48	0.000	0.155	0.159
2.710	0.46a	2,227.34	0.000	0.146	0.161

Distances in METERS. Specific Gravity = 1.025. Area in m.-Rad.

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 2279.3 m.-WT was applied to artificially modify the CG.

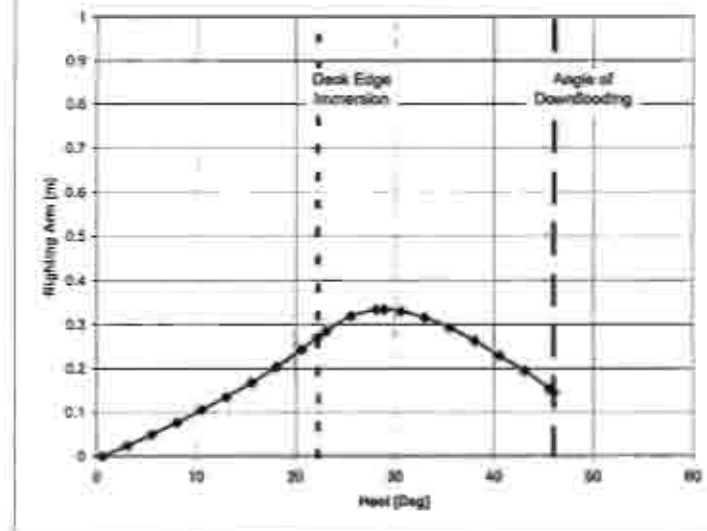
Critical Point: LCF = 3.368a TCG = 0.006a VCG = 6.580
(1) CAPTAIN'S ROOM WINDOW FLOOD 1.438a 7.200 11.300

Damage Case No.502 - Comp 28-43 @ 2.5 m
IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.48



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.502 - Comp 28-43 @ 2.5 m



DAMAGE STABILITY CRITERIA				Min/Max	Attained
(1)	GM at Equilibrium	>	0.050	m	0.578 F
(2)	Absolute Angle at Equilibrium	<	15.00	deg	0.61 F
(3)	Absolute Angle at Deck/margin Immersion	>	0.00	deg	22.28 F

01/21/09 08:53:40 STX Canada Marine, Inc.
 CGCS JOHN P. Tully
 NO.503 - COMPT 12-43 # 3.0N - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
 USK DRAFT draft: 4.340 @ 30.25f, 4.964 @ 24.61a
 Trim: Aft 0.624/54.875, Heel: Stbd 0.09 deg.

Part	Weight (MT)	LCG	TCG	VCG		
LIGHT SHIP	3,624.66	2.595a	0.048a	6.457		
AFT STORES	5.00	22.350a	1.330p	6.556		
PWD STORES	3.00	30.000f	0.000	8.500		
Galley Stores	14.00	20.250f	0.000	6.000		
Gas in Jettisonable Tx	0.68	20.250a	4.160p	11.000		
40 Crew and Effects @ 125	5.00	0.000	0.000	11.000		
UPPER DECK MACHINERY	17.10	19.490a	0.050a	8.130		
UPPER DECK CONTAINERS	4.35	26.100a	4.650p	8.600		
FOCSLE DECK MACHINERY	8.98	8.320a	4.670a	11.000		
FOCSLE DECK CONTAINER	3.86	14.350a	5.400a	11.300		
HELICOPTER	2.50	21.000f	0.000	14.300		
ROSETTS EQUIPMENT	0.90	0.700a	5.600a	9.000		
Total Fixed----->	1,689.97	2,658a	0.068a	6.543		
Load	SpGr	Weight (MT)	LCG	TCG	VCG	PSW
TK2 WB.F	0.200	1.023	16.41	13.369f	1.825p	16.78
TK3 FO.F	0.990	0.840	17.12	8.320f	3.446p	17.07
TK4 FO.F	0.980	0.840	34.65	4.089f	4.144p	27.25
TK4 FO.S	0.990	0.840	34.65	4.089f	4.144p	27.25
TK5 FO.F	1.000	0.840	34.66	0.485a	3.066p	0.30
TK5 FO.S	1.000	0.840	34.66	0.485a	3.066p	0.30
TK6 FO.F	0.980	0.840	24.13	7.363a	4.588p	20.84
TK6 FO.S	1.000	1.023	30.04	7.318a	4.598p	0.00
TK5 FO.P	0.980	0.840	37.71	21.913a	4.111p	35.63
TK5 FO.S	0.980	0.840	37.71	21.913a	4.111p	35.63
TK9 FO.F	0.980	0.840	23.84	24.098a	2.755p	57.50
TK9 FO.S	0.980	0.840	23.84	24.098a	2.755p	57.50
TK1 FW.F	0.980	1.000	16.56	17.362f	1.519p	6.35
TK1 FW.S	0.980	1.000	16.56	17.362f	1.519p	6.35
CPP OIL.F	0.500	0.990	0.62	11.185a	0.904p	0.10
SLUDGE.S	0.223	1.000	0.77	11.104a	1.290a	0.92
SEWAGE.S	0.100	0.990	0.49	18.707a	5.302a	0.77
ENGINE RM.C	0.371	1.023	165.31	7.585a	0.106p	2002.86
Permeability override: 0.850						
PODAY.F	0.380	0.840	9.58	18.889a	3.496p	3.49
Total Tanks----->			599.73	5,671a	0.184p	2317.65
Total Weight----->			2,289.70	3,448a	0.002a	5.479
Displacement	LCG	TCG	VCG	Refit		
HULL	1.025	2,289.64	3.477a	0.006a	2.860	-4.869
Righting Arms	0.000	0.000				
Distances in METERS						Moments in m.-MT.

FREEMBOARD STATUS
 USK DRAFT draft: 4.340 @ 30.25f, 4.964 @ 24.61a
 Trim: Aft 0.624/54.875, Heel: Stbd 0.09 deg.
 Least freeboard is 2.568 m. located at 37.130a
 Least extra freeboard (to margin line) is 2.492 m. located at 30.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
 CGCS JOHN P. Tully
 NO.503 - COMPT 12-43 # 3.0N - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
 Trim: Aft 0.624/54.875, Heel: Stbd 0.09 deg., VCG = 5.479

LCF	Displacement	Righting-Arms	Weight	Moment				
Draft	Weight (MT)	LCB	VCB	LCF	GML	GNT		
4.749	2,289.64	3.477a	2.860	7.14	5.711a	29.63	71.01	0.599
Distances in METERS.		Specific Gravity = 1.025.		Moment in m.-MT.				
Draft is from USK DRAFT.		Trim is per 54.85a.		True Free Surface included.				

RIGHTING ARMS vs HEEL ANGLE
 Total CG: LCB = 3.448a TCG = 0.002a VCG = 5.479
 Free Surface Adjustment: 1.012
 Adjusted CG: LCB = 3.458a TCG = 0.001a VCG = 0.492

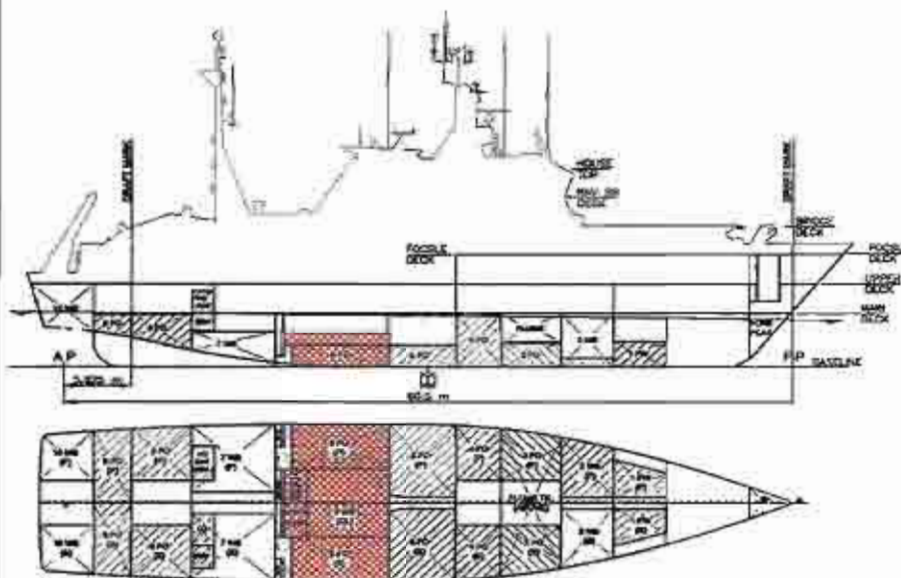
Origin	Depth	Displacement	Righting Arms	Flood %					
Depth	Trim	Heel	Weight (MT)	LCB	TCB	LCF	CG	Area	Height
4.687	0.57a	0.00a	2,289.70	0.000	0.000	0.0000	6.532(1)		
4.662	0.47a	2.59a	2,289.70	0.000	0.027	0.0006	6.221(1)		
4.643	0.47a	5.09a	2,289.70	0.000	0.055	0.0024	5.900(1)		
4.616	0.46a	7.59a	2,289.70	0.000	0.084	0.0054	5.570(1)		
4.579	0.49a	10.09a	2,289.70	0.000	0.115	0.0098	5.233(1)		
4.530	0.44a	12.59a	2,289.70	0.000	0.148	0.0155	4.887(1)		
4.470	0.41a	15.09a	2,289.70	0.000	0.183	0.0227	4.537(1)		
4.397	0.57a	17.59a	2,289.70	0.000	0.221	0.0315	4.182(1)		
4.311	0.23a	19.09a	2,289.70	0.000	0.263	0.0421	3.829(1)		
4.273	0.51a	21.14a	2,289.70	0.000	0.282	0.0472	Mary Imm.		
4.218	0.48a	23.59a	2,289.70	0.000	0.309	0.0545	3.466(1)		
4.107	0.43a	25.09a	2,289.70	0.000	0.345	0.0688	3.101(1)		
3.991	0.42a	27.59a	2,289.70	0.000	0.363	0.0843	2.727(1)		
3.912	0.42a	29.17a	2,289.70	0.000	0.366	0.0944	2.486(1)		
3.865	0.42a	30.09a	2,289.70	0.000	0.365	0.1002	2.347(1)		
3.728	0.45a	32.59a	2,289.58	0.000	0.354	0.1159	1.963(1)		
3.580	0.49a	35.09a	2,289.57	0.000	0.334	0.1310	1.577(1)		
3.421	0.55a	37.59a	2,289.90	0.000	0.308	0.1450	1.189(1)		
3.352	0.44a	40.09a	2,289.81	0.000	0.278	0.1578	0.800(1)		
3.073	0.76a	42.59a	2,289.69	0.000	0.246	0.1692	0.410(1)		
2.888	0.85a	45.09a	2,289.35	0.000	0.207	0.1791	0.019(1)		
2.880	0.85a	45.21a	2,290.01	0.000	0.205	0.1796	-0.001(1)		
Distances in METERS. Specific Gravity = 1.025. Area in m.-Rad.									

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 2317.6 m.-MT was applied to artificially modify the CG.

Critical Point: LCB = 3.448a TCG = 0.002a VCG = 5.479
 (1) CAPTAIN'S ROOM WITHOON FLOOD 7.530a 7.000 11.300

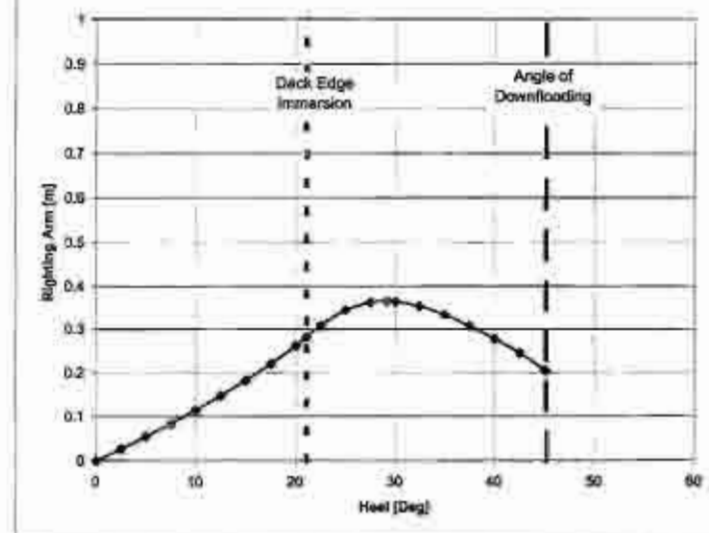
Damage Case No.503 - Comp 28-43 @ 3.0 m

IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.48



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.503 - Comp 28-43 @ 3.0 m



LCM	DAMAGE STABILITY CRITERIA	Min/Max	Attained
(1)	GM at Equilibrium	> 0.050 m	0.399 F
(2)	Absolute Angle at Equilibrium	< 13.00 deg	0.09 F
(3)	Absolute Angle at Deck/margin Immersion	> 0.00 deg	31.16 F

01/21/99 08:53:40 STX Canada Marine, Inc.
 088 11.50 CGOS JOHN P. Tully
 001.504 - COMPT 28-43 @ 3.5M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
 USN DRAFT draft: 4.401 @ 30.252, 3.045 @ 24.634
 Trim: Aft 0.664/24.875, Heel: Port 0.32 deg.

Part	Weight (MT)	LCB	TCB	VCG			
LIGHT SHIP	1,424.60	2.556	0.048	5.437			
APT STORES	3.00	22.730	1.730	6.596			
TWO STORES	3.00	50.000	0.000	8.800			
Galley Stores	14.00	20.250	0.000	4.000			
Gas in Jettisonable TK	0.48	20.250	6.100	11.000			
40 Case and Effects @ 125	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490	0.000	8.133			
UPPER DECK CONTAINER	4.35	26.100	4.600	8.400			
POSSIBLE DECK MACHINERY	9.88	8.320	4.470	11.000			
POSSIBLE DECK CONTAINER	3.86	14.350	5.480	13.300			
HELICOPTER	2.50	31.000	0.000	14.300			
ROCKET EQUIPMENT	0.90	0.700	3.600	9.000			
Total Fixed----->	1,489.97	2.659	0.059	8.143			
Load	Spd	Weight (MT)	LCB	TCB	VCG	Trim	
TK2_HL.P	0.200	1.055	16.61	13.666	1.833	1.019	14.93
TK3_PO.P	0.950	0.940	17.32	8.325	1.433	1.803	17.12
TK4_PO.P	0.980	0.940	54.65	4.069	4.147	2.825	27.28
TK5_PO.P	0.980	0.940	54.65	4.069	4.142	2.865	27.22
TK6_PO.P	1.000	0.940	34.68	9.465	3.066	1.249	0.00
TK7_PO.P	1.000	0.940	34.68	9.465	3.066	1.249	0.00
TK8_PO.P	0.980	0.940	24.12	7.369	4.594	1.440	20.16
TK9_PO.P	1.000	1.000	30.04	7.318	4.599	1.471	0.00
TK10_PO.P	0.980	0.940	37.71	21.914	4.173	3.829	35.09
TK11_PO.P	0.980	0.940	37.71	21.914	4.107	3.829	34.82
TK12_PO.P	0.980	0.940	23.84	24.998	2.776	4.095	32.58
TK13_PO.P	0.980	0.940	23.84	24.998	2.750	4.095	31.66
TK14_PO.P	0.980	1.000	16.56	17.360	1.523	1.323	0.34
TK15_PO.P	0.980	1.000	16.56	17.360	1.517	1.323	0.01
OPP_PIL.P	0.500	0.990	0.62	11.185	0.909	0.431	0.50
SLUDGE.S	0.223	1.000	0.77	11.107	1.211	0.409	0.68
WENAGE.S	0.100	0.880	9.49	15.708	2.291	3.283	0.77
ENGINE_RMT	0.512	1.025	227.98	1.590	0.186	2.550	2002.47
Permeability overboard		0.890					
FOGAY.P	0.980	0.940	9.58	18.688	1.502	5.829	2.49
Total Tanks----->			662.38	5.834	0.019	2.589	2304.04
Total Weight----->			2,352.35	2.688	0.078	5.420	
		Displ (MT)	LCB	TCB	VCG	Trim	
NULL	1.328	2,352.12	3.589	0.023	2.311	-0.752	
Righting Arm			0.000	4.500			
Distances in METERS							Distances in m.-MT

WEIGHT and DISPLACEMENT STATUS
 USN DRAFT draft: 4.401 @ 30.252, 3.045 @ 24.634
 Trim: Aft 0.664/24.875, Heel: Port 0.32 deg.
 Least freeboard is 2.438 m. located at 32.130
 Least extra freeboard (to margin line) is 2.358 m. located at 42.130

01/21/99 08:53:40 STX Canada Marine, Inc.
 088 11.50 CGOS JOHN P. Tully
 001.504 - COMPT 28-43 @ 3.5M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
 Trim: Aft 0.664/24.875, Heel: Port 0.32 deg., VCG = 5.420

LCB	Displacement	Weight	Height	LCB	TCB	VCG	Trim	Heel	Dist
4.401	2,352.12	3.589	2.311	7.17	3.693	29.86	49.66	0.470	
Distances in METERS. Specific Gravity = 1.025, Moment in m.-MT.									
Trim is per 24.88m.									
Draft is from USN DRAFT. True Free Surface included.									

RIGHTING ARM vs HEEL ANGLE
 Total CG: LCB = 2.556m TCB = 0.059m VCG = 5.420
 Free Surface Adjustment: 0.979
 Adjusted CG: LCB = 3.570m TCB = 0.004m VCG = 6.399

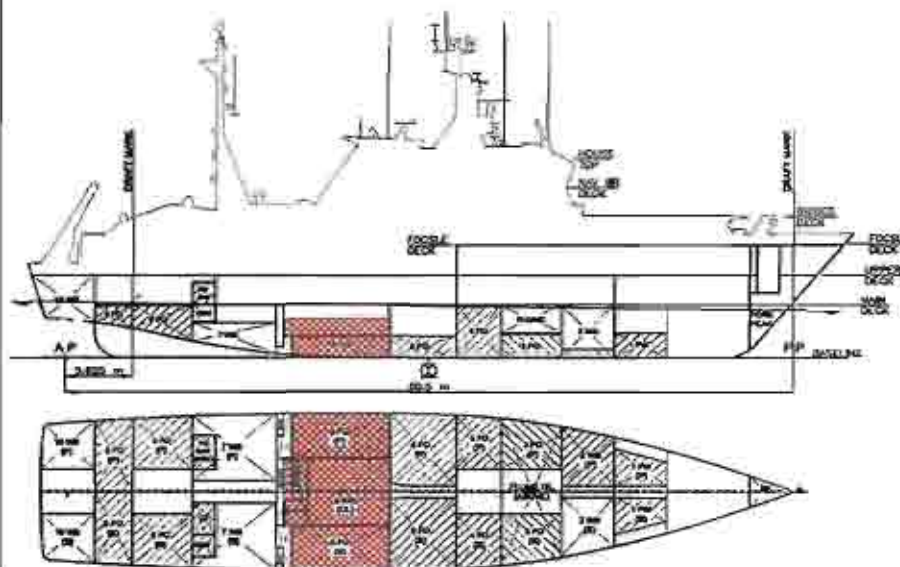
Origin	Degree of Displacement			Righting Arms			Flood Pt
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Height
4.731	0.710	0.32p	2,352.12	0.000	0.000	0.0000	6.415(1)
4.744	0.710	2.42p	2,352.12	0.000	0.030	0.0006	6.103(1)
4.724	0.710	8.33p	2,352.12	0.000	0.060	0.0024	5.782(1)
4.697	0.710	14.80p	2,352.12	0.000	0.092	0.0059	5.461(1)
4.657	0.700	20.30p	2,351.92	0.000	0.126	0.0107	5.113(1)
4.607	0.690	26.82p	2,352.35	0.000	0.162	0.0170	4.767(1)
4.544	0.680	33.30p	2,352.35	0.000	0.201	0.0249	4.416(1)
4.470	0.670	39.80p	2,352.35	0.000	0.243	0.0346	4.062(1)
4.393	0.660	46.30p	2,352.34	0.000	0.285	0.0450	3.704(1)
4.306	0.650	52.82p	2,352.34	0.000	0.292	0.0462	3.343(1)
4.206	0.640	59.32p	2,352.34	0.000	0.337	0.0598	2.972(1)
4.178	0.630	65.82p	2,352.34	0.000	0.371	0.0753	2.593(1)
4.065	0.620	72.32p	2,352.34	0.000	0.397	0.0918	2.207(1)
3.993	0.610	78.82p	2,352.34	0.000	0.390	0.1033	1.834(1)
3.911	0.600	85.32p	2,352.35	0.000	0.390	0.1088	1.420(1)
3.806	0.590	91.82p	2,352.70	0.000	0.380	0.1257	1.018(1)
3.660	0.660	98.32p	2,352.66	0.000	0.362	0.1419	0.626(1)
3.503	0.740	104.82p	2,352.66	0.000	0.338	0.1572	0.231(1)
3.336	0.830	111.32p	2,352.48	0.000	0.311	0.1714	-0.160(1)
3.159	0.950	122.02p	2,352.24	0.000	0.281	0.1843	-0.546(1)
2.971	1.020	144.37p	2,352.15	0.000	0.258	0.1956	-0.901(1)
Distances in METERS. ---Specific Gravity = 1.025, ---Area in m.-Rad,							

Note: The Height and Center of Gravity used for the righting arm 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 2304.0 m.-MT was applied to artificially modify the CG.

Critical Point: LCB = 2.556m TCB = 0.059m VCG = 5.420
 (1) CAPTAIN'S ROOM HINDON Flood 7.638m 7.000 11.200

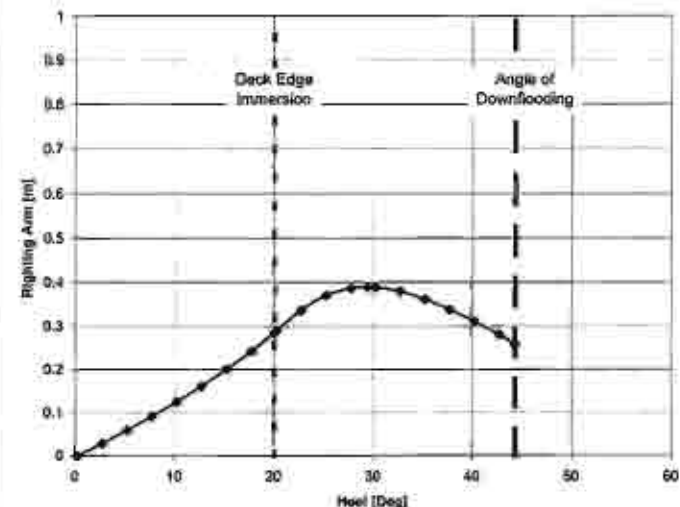
Damage Case No.504 - Comp 28-43 @ 3.5 m

IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.48



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.504 - Comp 28-43 @ 3.5 m



LHM		DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1)	GK at Equilibrium	>	0.050	m.	0.470 P
(2)	Absolute Angle at Equilibrium	<	15.00	deg	0.32 P
(3)	Absolute Angle at Deck/margin Immersion	>	0.00	deg	20.08 P

01/21/09 06:53:40 STX Canada Marine, Inc.
COGS JOHN P. Tully
NO.505 - COMPT 28-43 @ 4.0M - LOADLINE DEPARTURE CONDITION

HEIGHT AND DISPLACEMENT STATUS
USK DRAFT draft: 4.462 @ 30.25F, 5.185 @ 24.33a
Trim: Aft 0.704/54.875, Heel: Port 0.64 deg.

Part	Height (MT)	LCG	TCG	VCG			
LIGHT SHIP	1,424.60	2.555a	0.046a	6.457			
ATT STORES	3.00	22.350a	1.330p	4.556			
PWR STORES	3.00	30.000a	0.000	2.500			
Galley Stores	14.00	20.250f	0.000	6.000			
Gas in Jettisonable TK	0.68	20.250a	4.100p	11.000			
4U Crew and Effects @ 125	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490a	0.450a	8.130			
UPPER DECK CONTAINER	4.35	26.100a	4.650p	8.400			
FOCCLE DECK MACHINERY	8.98	5.320a	4.870a	11.000			
FOCCLE DECK CONTAINER	3.86	14.350a	5.480a	11.200			
HELICOPTER	2.50	21.000a	0.000	14.300			
ROSETTE EQUIPMENT	0.90	0.700a	5.600a	9.000			
Total fixed----->	1,689.97	2.659a	0.069a	6.543			
Load	SpGr	Weight (MT)	LCG	TCG	VCG	PSM	
TK2_WD.F	0.200	1.025	16.61	13.064f	1.839p	1.019	17.10
TK3_TO.F	0.950	0.840	17.32	8.323a	3.409p	1.502	17.18
TK4_TO.F	0.980	0.840	54.65	4.888a	4.153p	2.885	27.29
TK4_TO.F	0.980	0.840	54.65	4.888a	4.153p	2.889	27.29
TK5_TO.F	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK5_TO.F	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK6_TO.F	0.980	0.840	24.13	7.363a	4.599p	1.461	18.64
TK6_TO.F	1.000	1.025	30.04	7.318a	4.199a	1.471	0.00
TK8_TO.F	0.980	0.840	27.71	21.914a	4.122p	3.823	31.90
TK8_TO.F	0.980	0.840	27.71	21.914a	4.122p	3.823	31.11
TK9_TO.F	0.980	0.840	23.84	26.058a	2.789p	4.095	40.92
TK9_TO.F	0.980	0.840	23.85	26.058a	2.739a	4.095	39.75
TK1_PW.F	0.980	1.000	16.56	17.359f	1.524p	1.322	4.97
TK1_PW.F	0.980	1.000	16.56	17.359f	1.524p	1.322	6.36
CPP_OIL.F	0.500	0.890	0.62	11.188a	0.914p	0.435	0.50
SLUDGE.S	0.223	1.000	0.77	11.109a	1.275a	0.405	0.85
SENAGE.S	0.100	0.800	0.49	18.710a	5.282a	3.289	0.77
ENGINE_RM.C	0.653	1.025	290.60	7.592a	0.222p	2.809	2002.05
Permeability override: 0.850							
FOUNT.F	0.980	0.840	9.38	18.853a	3.804p	3.929	2.08
Total Tanks----->			785.06	6.805a	0.222p	2.658	2270.29
Total Weight----->			2,415.03	3.663a	0.046p	3.377	
Displ (MT)----->			2,414.67	3.695a	0.046p	2.963	-4.630
HULL	1.025						
Righting Arms:			0.000	0.000p			
Distances in METERS----->							Moments in m.-MT.

FREEBOARD STATUS

USK DRAFT draft: 4.462 @ 30.25F, 5.185 @ 24.33a
Trim: Aft 0.704/54.875, Heel: Port 0.64 deg.
Least freeboard is 2.289 m. located at 32.130a
Least extra freeboard (to margin line) is 2.211 m. located at 32.130a

01/21/09 06:53:40 STX Canada Marine, Inc.
COGS JOHN P. Tully
NO.505 - COMPT 28-43 @ 4.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.704/54.875, Heel: Port 0.64 deg., VCB = 2.377

LCF Displacement Buoyancy-Ctr. Height/ Moment/
Draft: Weight (MT) LCB VCB cm LCF on trim GML GWT
4.622 2,414.67 3.695a 2.963 7.21 3.675a 30.08 68.38 0.735
Distances in METERS-----> Specific Gravity = 1.025-----> Moment in m.-MT.
Trim is per 54.98a.

Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 3.663a TCG = 0.019p VCG = 5.377

Free Surface Adjustment: 0.940

Adjusted CG: LCG = 3.675a TCG = 0.008p VCG = 6.317

Origin	Degrees of Displacement		Righting Arms			Flood Pt
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area
4.633	0.75a	0.64p	2,415.03	0.000	0.000	0.0000
4.625	0.75a	3.14p	2,415.03	0.000	0.032	0.0007
4.605	0.75a	5.44p	2,415.03	0.000	0.069	0.0026
4.775	0.75a	8.14p	2,415.03	0.000	0.099	0.0064
4.733	0.75a	10.64p	2,414.85	0.000	0.136	0.0116
4.681	0.75a	13.14p	2,415.02	0.000	0.175	0.0183
4.616	0.75a	15.64p	2,415.03	0.000	0.218	0.0268
4.540	0.67a	18.14p	2,415.03	0.000	0.264	0.0373
4.508	0.67a	19.07p	2,415.03	0.000	0.282	0.0428
4.451	0.65a	20.64p	2,415.03	0.000	0.314	0.0499
4.383	0.62a	23.14p	2,415.03	0.000	0.360	0.0666
4.248	0.62a	25.64p	2,415.03	0.000	0.389	0.0810
4.136	0.64a	28.14p	2,415.38	0.000	0.404	0.0993
4.044	0.67a	30.02p	2,415.03	0.000	0.407	0.1115
4.013	0.68a	30.64p	2,415.53	0.000	0.406	0.1160
3.880	0.75a	33.14p	2,415.42	0.000	0.397	0.1336
3.735	0.83a	35.64p	2,415.33	0.000	0.381	0.1506
3.590	0.93a	38.14p	2,415.24	0.000	0.360	0.1667
3.414	1.04a	40.64p	2,415.07	0.000	0.335	0.1819
3.239	1.16a	43.14p	2,414.78	0.000	0.305	0.1959
3.011	1.18a	45.64p	2,415.25	0.000	0.299	0.2090
Distances in METERS-----Specific Gravity = 1.025-----						Area in m.-Rad.

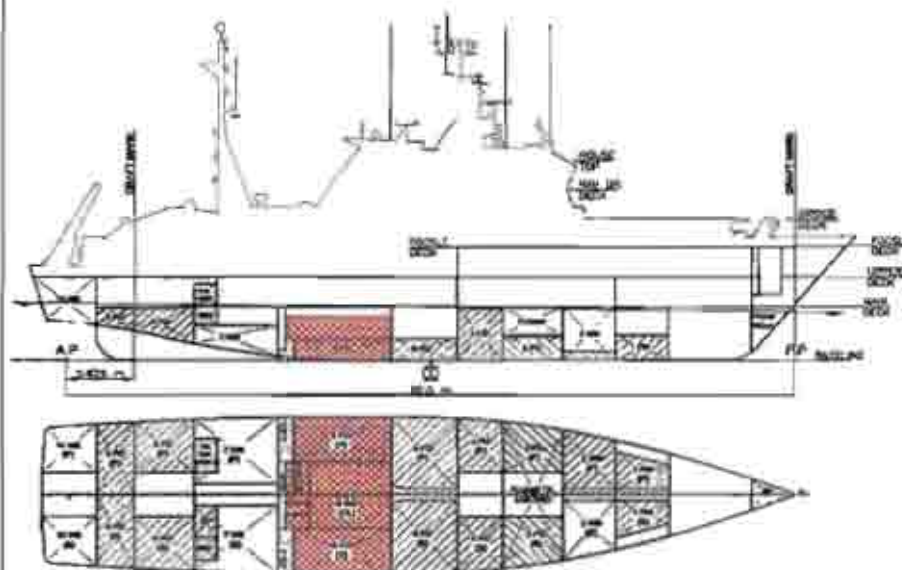
Note: The Weight and Center of Gravity used for the righting arms above include tank loads. However, the tank load centers were NOT ADJUSTED TO SHIFT with heel and trim changes. Rather, a constant Free Surface Moment of 2270.3 m.-MT was applied to artificially modify the CG.

Critical Point-----> LCB-----TCP-----VCF

(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300

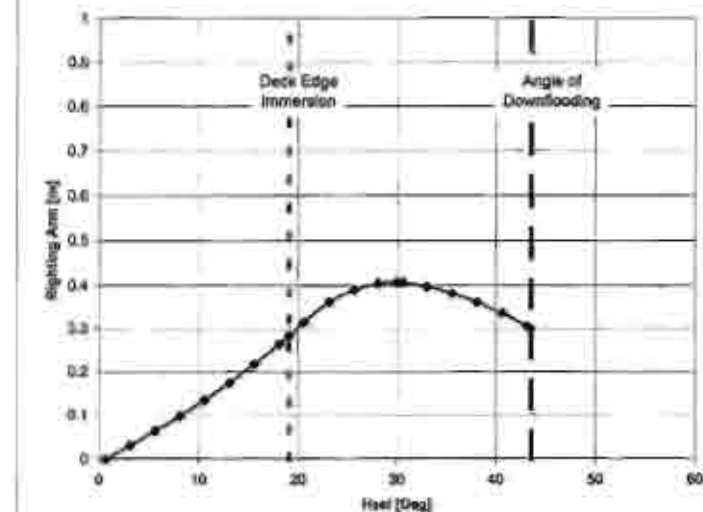
Damage Case No.505 - Comp 28-43 @ 4.0 m

IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG. 48



NOTE: Helicopter included in case (not depicted in diagram above)

Damage Case No.505 - Comp 28-43 @ 4.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) GM at Equilibrium	>	0.050 m	0.735 P
(2) Absolute Angle at Equilibrium	<	15.00 deg	0.64 P
(3) Absolute Angle at Deck/margin Immersion	>	0.00 deg	19.07 F

01/21/08 08:53:40 STX Canada Marine, Inc.
GHS 11:50 COGS JOHN P. Tully
NO.306 - COMPT 28-43 @ 4.9M - LOADING DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USE DRAFT draft: 4.577 @ 30.15t, 5.349 @ 24.61t
Trim: Aft 0.771/34.875, Heel: Port 0.60 deg.

Part			Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP			1,824.00	2.585a	0.046a	4.457	
AFT STORES			5.00	22.350a	1.330p	4.556	
FW STORES			3.00	30.000a	0.000	8.500	
Galley Stores			14.00	20.250a	0.000	6.000	
Gas in Jettisonable TK			0.00	20.250a	0.100p	11.500	
40 Crew and Effects @ 100			0.00	0.000	0.000	11.000	
UPPER DECK MACHINERY			11.10	19.490a	0.098a	8.130	
UPPER DECK CONTAINERS			4.35	24.100a	0.000p	8.400	
PODDLE DECK MACHINERY			8.98	8.320a	4.670a	11.800	
PODDLE DECK CONTAINERS			3.86	14.350a	5.492a	11.300	
HELICOPTER			2.50	21.000a	0.000	14.300	
ROCKET EQUIPMENT			0.00	0.700a	5.600a	8.900	
Total Fixed-----			1,689.97	2,659a	0.059a	6,343	
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	TRIM
TKS_HL.P	1.200	1.025	16.61	12.082a	1.838p	1,015	17.09
TKS_FO.P	0.950	0.840	17.32	8.321a	5.408p	1,507	17.15
TKS_PO.S	0.980	0.840	54.65	4.088a	4.150p	2,889	17.28
TKH_PO.S	0.990	0.640	54.25	4.088a	4.140a	2,889	17.20
TKS_FO.P	1.000	0.640	34.66	0.465a	3.066p	1,244	17.00
TKS_FO.S	1.000	0.840	34.86	0.465a	3.064a	1,244	0.00
TKS_FO.P	0.980	0.840	24.13	7.385a	4.598p	1,940	18.40
TKS_FO.P	0.980	0.640	37.71	21.914a	4.123p	2,829	31.56
TKS_FO.S	0.980	0.640	37.71	21.914a	4.103a	2,829	30.77
TKS_FO.P	0.960	0.640	23.84	26.099a	2.789p	0,095	41.55
TKS_FO.S	0.960	0.640	23.85	26.099a	2.741a	0,095	40.29
TKI_FW.P	0.940	1.020	16.36	17.358a	1.538p	1,322	4.80
TKI_FW.S	0.940	1.000	16.56	17.361a	1.516a	1,322	4.23
CPP_OCL.P	0.940	0.880	6.62	11.185a	0.913p	0,436	0.30
STORAGE.S	0.223	1.000	6.77	11.170a	1.275a	0,409	0.85
STORAGE.S	0.100	0.890	6.69	18.712a	5.289a	1,069	0.77
TOTAL.P	0.980	0.840	5.58	18.695a	3.504p	5,829	3.49
Total Tanks-----			804.37	4.788a	0.580p	2,409	148.00
Total Weight-----			2,694.34	3,266a	0.237p	8,752	
			Displ (MT)	LCG	TCG	VCG	Refine
BULL		1.000	2,510.24	3,488a	0.041p	1,304	-4,968
TKS_FO.S	Flooded	1.025	-30.04	7,318a	4.598a	1,471	-6,388
SHIPKEE_HL.C	Flooded	1.025	+406.09	7,550a	0.104p	2,279	-4,968
Total Displacement-->		1.015	2,894.20	3,101a	0.089p	3,074	
	Righting Arm			0.000	0.000p		
Distance in METERS							

FREEBOARD STATUS

USE DRAFT draft: 4.577 @ 30.15t, 5.349 @ 24.61t
Trim: Aft 0.771/34.875, Heel: Port 0.60 deg.
Least freeboard is 2.101 m. located at 33.128a
Least extra freeboard (to margin line) is 1.025 m. located at 33.130a

01/21/08 08:53:40 STX Canada Marine, Inc.
GHS 11:50 COGS JOHN P. Tully
NO.306 - COMPT 28-43 @ 4.9M - LOADING DEPARTURE CONDITION

RIGHTING PROPERTIES with FLOODING
Trim: Aft 0.771/34.875, Heel: Port 0.60 deg., VCG = 1.789

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
Draft---Weight (MT)---LCG---VCG---TCG---LCF---TCG trim---GHS---SAT
5.082 2,094.20 3.105a 2.936 1.09 5.612a 30.66 80.34 1.965
Distance in METERS. Specific Gravity = 1.025. Moment in m.-MT.
Trim is per 34.88a.
Draft is from USE DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE with FLOODING
Total CG: LCG = 1.066a TCG = 0.057p VCG = 1.789
Free Surface Adjustment: 0.123
Adjusted CG: LCG = 1.066a TCG = 0.055p VCG = 1.917

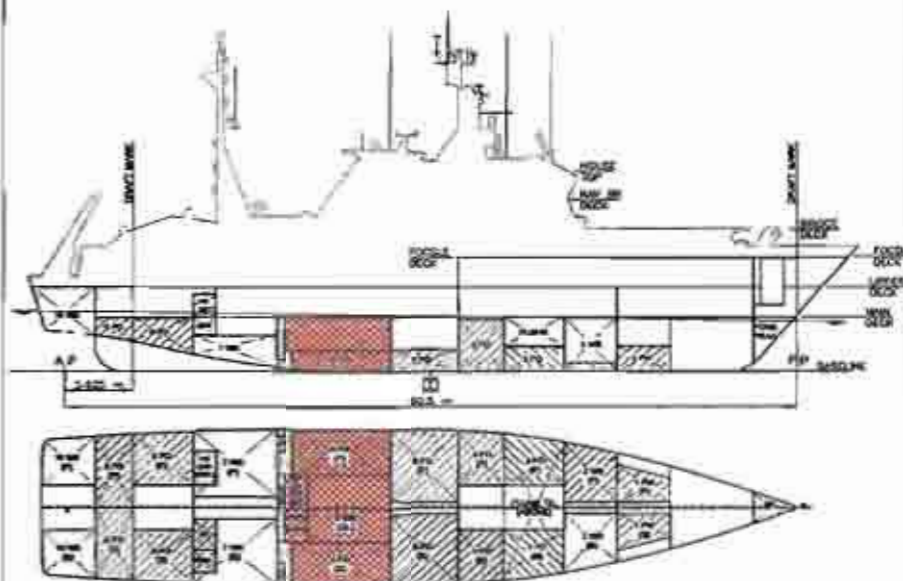
Origin	Degree of		Displacement	Righting Arm		Flood Pt	
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Height
4.998	0.81a	0.60p	2,094.20	0.000	0.000	0.0000	4.129(1)
4.976	0.81a	3.10p	2,094.20	0.000	0.074	0.0016	5.821(1)
4.945	0.80a	5.60p	2,093.97	0.000	0.134	0.0033	5.321(1)
4.901	0.79a	8.10p	2,093.81	0.000	0.189	0.0138	5.194(1)
4.847	0.78a	10.60p	2,094.34	0.000	0.243	0.0225	4.868(1)
4.780	0.78a	13.10p	2,094.34	0.000	0.319	0.0344	4.337(1)
4.700	0.76a	15.60p	2,094.34	0.000	0.398	0.0524	4.202(1)
4.609	0.75a	18.10p	2,094.34	0.000	0.465	0.0711	3.963(1)
4.596	0.70a	19.61p	2,094.34	0.000	0.474	0.0737	Marg Imm.
4.504	0.68a	20.40p	2,094.34	0.000	0.536	0.0836	3.522(1)
4.390	0.61a	23.10p	2,094.34	0.000	0.596	0.1177	3.176(1)
4.289	0.61a	25.60p	2,093.81	0.000	0.640	0.1466	2.816(1)
4.143	0.61a	28.10p	2,094.74	0.000	0.670	0.1732	2.448(1)
4.009	0.63a	30.60p	2,094.83	0.000	0.688	0.2029	2.076(1)
3.854	0.68a	33.10p	2,094.52	0.000	0.696	0.2331	1.701(1)
3.784	0.69a	34.49p	2,094.33	0.000	0.697	0.2301	1.491(1)
3.635	0.71a	36.60p	2,094.61	0.000	0.694	0.2635	1.324(1)
3.523	0.78a	38.10p	2,094.04	0.000	0.491	0.2938	0.948(1)
3.342	0.86a	40.60p	2,094.18	0.000	0.484	0.3238	0.569(1)
3.152	0.95a	43.10p	2,094.34	0.000	0.472	0.3534	0.190(1)
3.053	0.99a	44.20p	2,094.34	0.000	0.463	0.3678	-0.000(1)
Distance in METERS-----Specific Gravity = 1.025-----Area in m^2-----							

Note: The weight and center of gravity used for the righting arm 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 238.0 m.-MT was applied to artificially modify the CG.

Critical Point: LCG---TCG---VCG
(1) CAPTAIN'S ROOM WINDOW FLOOD 1.430a 1.000 11.300

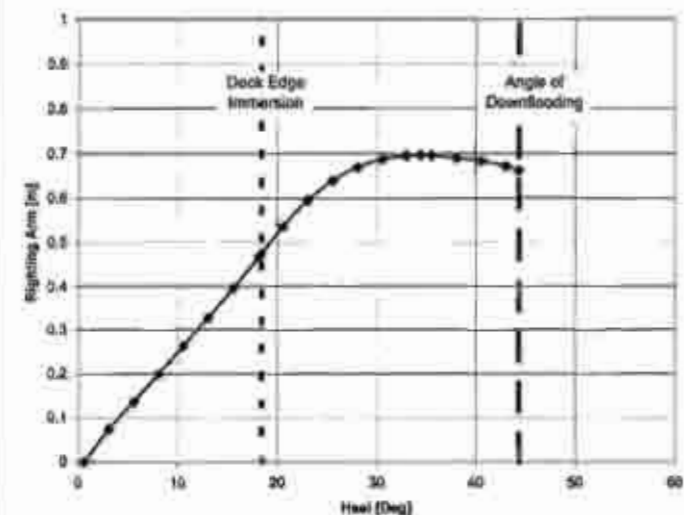
Damage Case No.506 - Comp 28-43 @ 4.9 m

IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG. 4B



NOTE: Helicopter included in mass that depicted in diagram above.

Damage Case No.506 - Comp 28-43 @ 4.9 m



LINE	DAMAGE STABILITY CRITERIA	NIA/Max	Attained
(1)	Gt at Equilibrium	> 0.050	% 1.865 F
(2)	Absolute Angle at Equilibrium	< 15.00	deg 0.60 F
(3)	Absolute Angle at Deck/Margin Intersection	> 0.00	deg 18.41 F

01/21/09 08:53:40 STX Canada Marine, Inc.
GNS 11.50 CCGS JOHN P. Tully
NO.600 - COMPT 4-28 @ 1.0M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 4.318 @ 30.25t, 4.496 @ 24.63t
Trim: Aft 0.177/54.875, Heel: Sbd 4.19 deg.

Part			Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP			1,624.60	2.595a	0.048a	6.437	
AFT STORES			5.00	22.350a	1.330p	6.556	
FWO STORES			5.00	30.000f	0.000	8.500	
Galley Stores			14.00	20.350f	0.000	6.000	
Gsa in Jettisonable Tk			0.66	20.250a	6.100p	11.000	
40 Crew and Effects @ 125			5.00	0.000	0.000	11.000	
UPPER DECK MACHINERY			17.10	19.490a	0.050a	8.130	
UPPER DECK CONTAINER			4.35	26.100a	4.650p	8.600	
POCSLE DECK MACHINERY			8.98	8.320a	4.670a	11.000	
POCSLE DECK CONTAINER			1.86	14.350a	5.480a	11.300	
HELICOPTER			2.59	21.000f	0.000	14.300	
ROSETTE EQUIPMENT			0.90	0.700a	5.600a	9.000	
Total Fixed			1,689.97	2.659a	0.059a	6.543	
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSM
TK2_WB.P	0.200	1.025	16.62	13.094f	1.755p	1.022	14.92
TK7_WB.P	0.026	1.025	1.40	13.975a	1.480p	0.838	1.66
TK3_FO.P	0.950	0.840	17.32	8.356f	3.391p	1.504	5.47
TK4_FO.P	0.980	0.840	54.66	0.093f	4.118p	2.886	7.90
TK4_FO.S	0.980	0.840	54.66	4.092f	4.171a	2.886	7.96
TK5_FO.P	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK5_FO.S	1.000	0.840	34.66	0.465a	3.066a	1.248	0.00
TK6_FO.P	0.980	0.840	24.12	7.324a	4.559p	1.461	1.59
TK6_FO.S	0.980	0.840	24.12	7.323a	4.620a	1.461	1.67
TK8_FO.S	0.980	0.840	37.71	21.902a	4.145a	3.830	4.01
TK9_FO.S	0.980	0.840	25.84	26.092a	2.814a	4.096	2.59
TK1_FW.P	0.980	1.000	16.56	17.381f	1.500p	1.322	1.30
TK1_FW.S	0.980	1.000	16.56	17.369f	1.535a	1.322	1.16
CPF_OIL.P	0.500	0.890	0.62	11.185a	0.844p	0.417	0.51
SLUDGE.S	0.223	1.000	0.77	11.078a	1.397a	0.408	1.33
SEWAGE.S	0.100	0.890	0.49	18.693a	5.416a	3.289	0.78
POPCUMFRM.P	0.088	1.025	10.79	16.200a	0.020a	0.501	2.93
Permeability override:		0.850					
PODAY.P	0.980	0.840	9.58	18.688a	3.492p	5.929	0.84
Total Tanks			379.14	2.232a	0.286a	2.287	56.71
Total Weight			2,069.11	2.580a	0.108a	5.763	
			Displ (MT)	LCG	TCG	VCG	RefHt
HULL		1.025	2,069.13	2.580a	0.334a	2.684	-4.390

Righting Arms: 0.000 0.000a
Distances in METERS:-----Moment in m.-MT.

FREEBOARD STATUS

USK DRAFT draft: 4.318 @ 30.25t, 4.496 @ 24.63t
Trim: Aft 0.177/54.875, Heel: Sbd 4.19 deg.
Least freeboard is 2.600 m. located at 32.130a
Least extra freeboard (to margin line) is 2.524 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
GNS 11.50 CCGS JOHN P. Tully
NO.600 - COMPT 4-28 @ 1.0M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.177/54.875, Heel: Sbd 4.19 deg., VCG = 5.763

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
Draft---Height (MT)---LCB---VCG---CG---LCF---cm trim---GML---GWT
4.43a 2,069.12 2.590a 2.684 7.05 5.485a 28.75 76.26 1.451
Distances in METERS.-----Specific Gravity = 1.025.-----Moment in m.-MT.
Trim is per 54.88a.

Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 2.580a TCG = 0.108a VCG = 5.763
Free Surface Adjustment: 0.027
Adjusted CG: LCG = 2.580a TCG = 0.106a VCG = 5.790

Origin	Degrees of		Displacement	Righting Arms		Flood Pt
Depth	Trim	Heel	Weight (MT)	In Trim	In Heel	Height
4.391	0.18a	4.18a	2,069.46	0.000	0.000	0.0000
4.367	0.17a	6.69a	2,069.11	0.000	0.064	0.0014
4.333	0.14a	9.19a	2,069.11	0.000	0.127	0.0055
4.288	0.11a	11.69a	2,069.11	0.000	0.192	0.0125
4.232	0.07a	14.19a	2,069.11	0.000	0.257	0.0223
4.164	0.02a	16.69a	2,069.11	0.000	0.325	0.0350
4.084	0.041	19.19a	2,069.11	0.000	0.395	0.0507
3.992	0.11a	21.69a	2,069.11	0.000	0.466	0.0695
3.886	0.18a	24.19a	2,069.11	0.000	0.536	0.0914
3.841	0.20a	25.10a	2,069.11	0.000	0.561	0.1001 Marg Inn.
3.761	0.25a	26.89a	2,069.11	0.000	0.601	0.1162
3.624	0.32a	29.19a	2,069.11	0.000	0.651	0.1435
3.477	0.36a	31.69a	2,069.11	0.000	0.684	0.1726
3.319	0.38a	34.19a	2,068.71	0.000	0.703	0.2029
3.152	0.38a	36.69a	2,069.17	0.000	0.714	0.2339
2.975	0.36a	39.19a	2,069.21	0.000	0.718	0.2651
2.836	0.33a	41.66a	2,069.14	0.000	0.718	0.2886
2.788	0.32a	41.69a	2,069.17	0.000	0.718	0.2965
2.593	0.26a	44.19a	2,069.38	0.000	0.716	0.3278
2.391	0.18a	46.69a	2,069.18	0.000	0.706	0.3588
2.223	0.13a	48.63a	2,069.34	0.000	0.691	0.3825

Distances in METERS.---Specific Gravity = 1.025.-----Area = 0.000(1)

---a = Red.

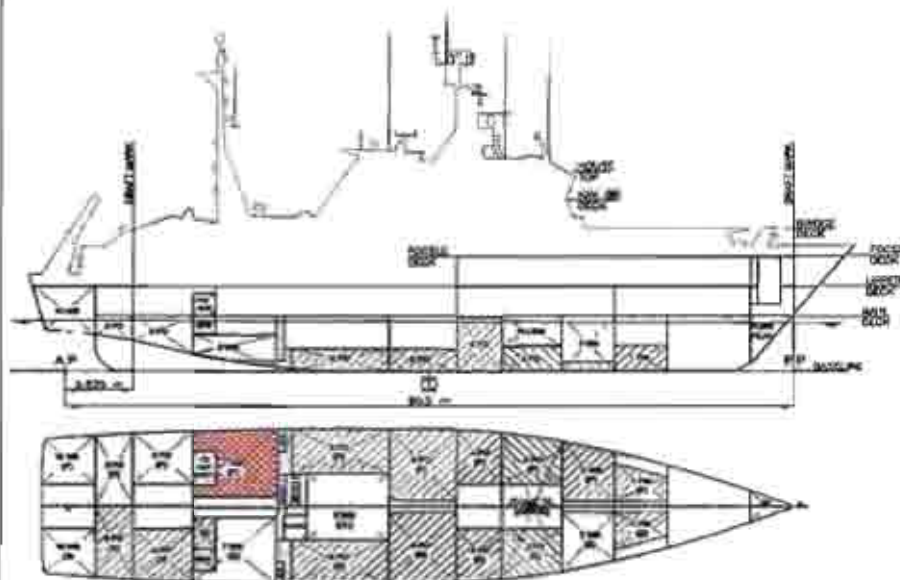
Distances in METERS.-----Specific Gravity = 1.025.-----Area in m.-Rad.

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 56.7 m.-MT was applied to artificially modify the CG.

Critical Point-----LCF-----TCP-----VCP
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300

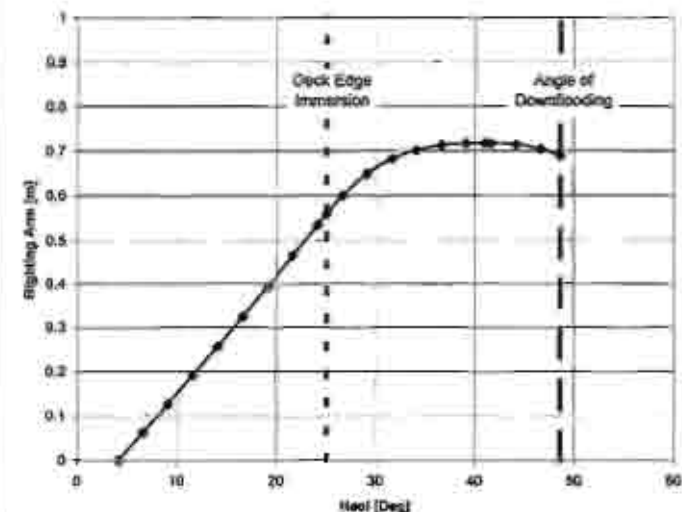
Damage Case No.600 - Comp 4-28 @ 1.0 m

IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.48



NOTE: Helicopters included in case when depicted in diagram above.

Damage Case No.600 - Comp 4-28 @ 1.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1)	GM at Equilibrium	> 0.050 m	1.450 m
(2)	Absolute Angle at Equilibrium	< 15.00 deg	4.10°
(3)	Absolute Angle at Deck/Margin Immersion	> 2.00 deg	25.10°

01/21/09 08:53:40 STX Canada Marine, Inc.
 USS 11.50 COGS JOHN P. Tully
 NO. 601 - COMPT 4-28 @ 2.0m - LOADING DEPARTURE CONDITION

WEIGHT AND DISPLACEMENT STATUS
 USK DRAFT draft: 4.294 @ 30.25t, 4.57t @ 24.42t
 Trim: Aft 0.278/24.875, Heel: Stbd 3.21 deg.

Part	Weight (MT)	LCB	TCB	VCB			
LIGHT SHIP	1,424.60	3.085a	6.549a	8.457			
APT STORES	5.00	22.380a	1.330p	8.504			
PND STORES	3.00	30.300a	0.000	8.500			
Galley Stores	14.00	20.250a	0.000	8.400			
Gas in Jerrycanable Tr	0.44	20.350a	6.100p	11.000			
10 Crew and Effects @ 12t	5.00	0.000	0.000	12.000			
UPPER DECK MACHINERY	17.10	16.450a	0.050p	9.100			
UPPER DECK COMBINATION	4.35	24.100a	4.890p	8.800			
POSSIBLE DECK MACHINERY	8.90	8.320a	4.870a	11.000			
POSSIBLE DECK CONTAINER	2.84	14.750a	5.480a	11.300			
HELICOPTER	2.50	21.000a	0.000	14.300			
ROCKET EQUIPMENT	0.90	0.700a	8.800a	8.000			
Total Flooded	1,689.87	2.455a	0.089a	8.943			
Load	SpGr	Weight (MT)	LCB	TCB	VCB	FSW	
TK1_W.P	0.200	1.025	16.62	13.089a	1.771p	1.021	15.11
TK2_W.P	0.220	1.025	16.65	13.140a	2.143p	1.570	14.81
TK3_W.P	0.250	0.840	17.32	8.151a	3.196p	1.543	8.11
TK4_W.P	0.260	0.810	14.65	4.092a	4.271p	2.896	11.82
TK5_W.P	0.280	0.840	14.65	4.092a	4.160a	2.884	11.96
TK6_W.P	1.000	0.840	34.66	0.465a	3.066p	1.248	2.00
TK7_W.P	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK8_W.P	0.280	0.840	24.12	7.329a	4.511p	1.461	2.52
TK9_W.P	0.280	0.840	24.12	7.329a	4.511p	1.461	2.59
TK10_W.P	0.280	1.025	0.03	19.878a	2.180p	1.904	0.01
TK11_W.P	0.280	0.840	27.71	21.901a	4.143a	3.825	0.02
TK12_W.P	0.280	0.840	23.94	24.033a	5.812a	4.094	3.65
TK13_W.P	0.280	1.000	16.56	17.318a	1.902p	1.322	0.05
TK14_W.P	0.280	1.000	16.56	17.366a	1.333a	1.322	1.74
CPW_OIL.P	0.500	0.850	0.62	11.125a	0.840p	0.436	0.50
SLUDGE.S	0.223	1.000	0.77	11.064a	1.388a	0.406	1.24
SLUDGE.S	2.100	0.850	0.49	16.486a	5.389a	3.267	0.73
PURCHURN.P	0.178	1.025	21.54	16.197a	0.000a	1.025	2.96
Permeability override:	0.800						
FOCAT.P	0.280	0.940	8.58	18.489a	3.484p	3.329	1.21
Total Tanks			407.14	7.135a	0.100a	2.232	123.67
Total Weight			2,097.15	2.755a	0.089a	5.707	
Displacement	LCB	TCB	VCB	Ref/ft			
WELL	1.025	2,097.15	3.771a	0.284a	2.703	-4.431	
Righting Arms	0.000	0.000a					
Distances in METERS						Moment in m.-MT	

FREEBOARD STATUS
 USK DRAFT draft: 4.294 @ 30.25t, 4.57t @ 24.42t
 Trim: Aft 0.278/24.875, Heel: Stbd 3.21 deg.
 least freeboard is 2.630 m. located at 32.130a
 least extra freeboard (to margin line) is 2.554 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
 USS 11.50 COGS JOHN P. Tully
 NO. 601 - COMPT 4-28 @ 2.0m - LOADING DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
 Trim: Aft 0.278/24.875, Heel: Stbd 3.21 deg., VCB = 5.707

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft--Weight(MT)--LCB--VCB--TCB--TCF--in trim--Stbd--Aft
 4.474 2,097.15 2.771a 2.703 3.08 5.607a 29.05 76.01 1.457
 Distances in METERS--Specific Gravity = 1.025--Moment in m.-MT
 Trim is per 54.99m.
 Draft is trim USK DRAFT. True Free Surface included.

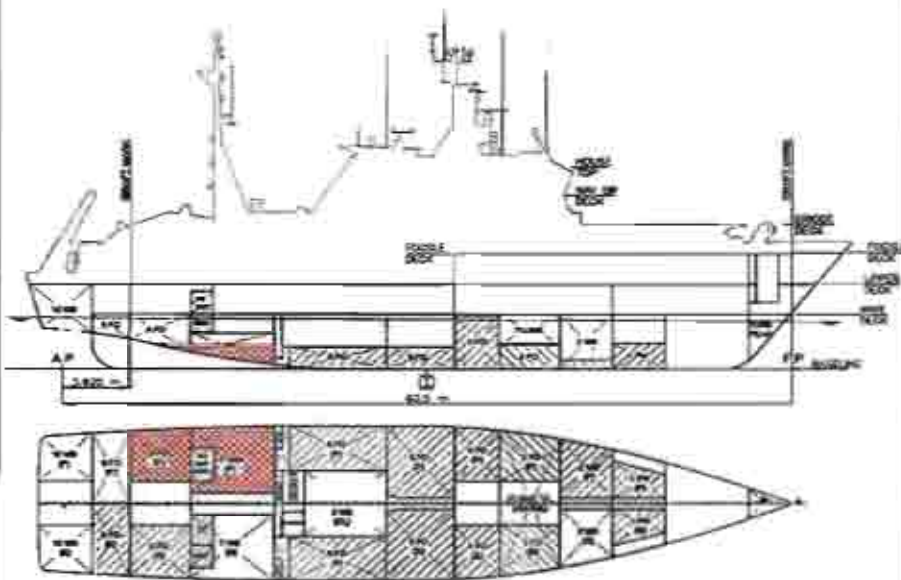
RIGHTING ARMS vs HEEL ANGLE
 Total CG: LCB = 2.755a TCB = 0.089a VCB = 5.707
 Free Surface Adjustment: 0.061
 Adjusted CG: LCB = 2.756a TCB = 0.083a VCB = 5.768

Origin	Degrees of Displacement		Righting Arms		Flood Pt		
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Weight
4.427	0.25a	3.71a	2,097.49	0.000	0.000	0.0000	6.425(1)
4.407	0.25a	5.71a	2,097.15	0.000	0.064	0.0014	6.103(1)
4.378	0.26a	8.21a	2,097.15	0.000	0.128	0.0036	5.772(1)
4.337	0.26a	10.71a	2,097.15	0.000	0.193	0.0126	5.434(1)
4.285	0.26a	12.21a	2,097.15	0.000	0.259	0.0225	5.090(1)
4.232	0.26a	13.71a	2,097.15	0.000	0.327	0.0353	4.740(1)
4.187	0.26a	15.21a	2,097.15	0.000	0.397	0.0510	4.384(1)
4.080	0.26a	16.71a	2,097.15	0.000	0.469	0.0699	4.029(1)
3.989	0.26a	18.21a	2,097.15	0.000	0.541	0.0913	3.672(1)
3.894	0.27a	19.71a	2,097.15	0.000	0.617	0.1081	3.314(1)
3.842	0.27a	21.21a	2,097.15	0.000	0.696	0.1377	2.959(1)
3.782	0.27a	22.71a	2,097.15	0.000	0.774	0.1645	2.599(1)
3.671	0.27a	24.21a	2,097.16	0.000	0.704	0.1748	2.236(1)
3.549	0.28a	25.71a	2,096.68	0.000	0.726	0.2061	1.872(1)
3.428	0.28a	27.21a	2,097.22	0.000	0.738	0.2381	1.502(1)
3.297	0.28a	28.71a	2,097.28	0.000	0.743	0.2704	1.130(1)
3.166	0.29a	29.45a	2,097.14	0.000	0.744	0.3039	0.753(1)
3.035	0.29a	30.71a	2,097.31	0.000	0.743	0.3389	0.373(1)
2.915	0.29a	32.21a	2,097.18	0.000	0.741	0.3752	0.000(1)
2.808	0.28a	33.71a	2,097.17	0.000	0.734	0.4124	0.367(1)
2.700	0.26a	34.44a	2,097.37	0.000	0.716	0.4502	0.000(1)

Distances in METERS - Specific Gravity = 1.025 - Area in m. sq.

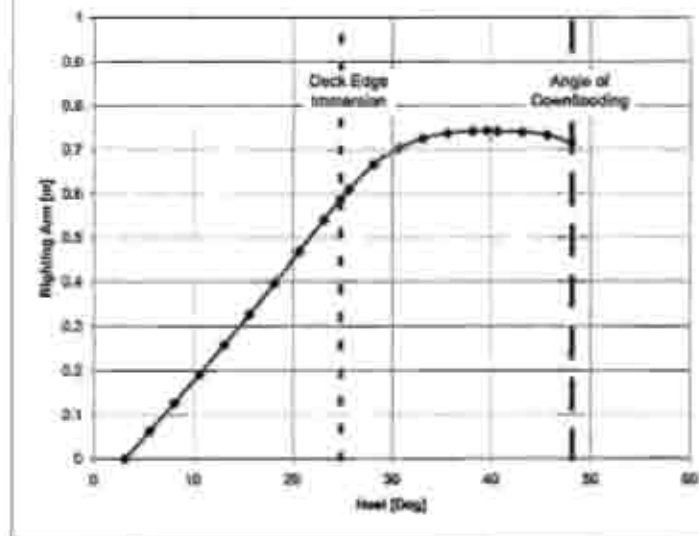
Damage Case No.601 - Comp 4-28 @ 2.0 m

IMPORTANT: SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG. 49



NOTE: Helicoides indices in case not depicted in diagram shown.

Damage Case No.601 - Comp 4-28 @ 2.0 m



Item	DESIGN STABILITY CRITERIA	Min/Max	Attained	
(1) Gw at Equilibrium	"	0.000	m	1.457 F
(2) Absolute Angle at Equilibrium	"	15.00	deg	3.21 P
(3) Absolute Angle at Back/propia Implosion	"	0.00	deg	24.85 P

01/21/09 08:53:40 STX Canada Marine, Inc.
 SHS 11.50 CCGS JOHN P. Tully
 NO.602 - CONF 4-28 @ 3.0M - LOADING DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
 USK DRAFT draft: 4.235 @ 30.255, 4.717 @ 24.434
 Trim: Aft 0.478/54.875, Heel: Stbd 0.29 deg.

Part			Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP			1,624.60	8.395a	0.048a	6.457	
AFT STORES			5.00	22.310a	1.330a	5.556	
FWD STORES			1.00	30.000a	0.000	9.500	
Galley Stores			14.00	20.250a	0.200	4.000	
Gas in Jettisonable TK			0.69	20.250a	6.100a	11.000	
40 Crew and Effects & LBS			5.00	0.000	0.300	11.000	
UPPER DECK MACHINERY			17.10	19.490a	0.250a	8.130	
UPPER DECK CONTAINER			4.35	26.100a	4.650a	8.600	
PODS DECK MACHINERY			8.98	8.320a	4.670a	11.000	
PODS DECK CONTAINER			3.86	16.350a	3.480a	11.300	
HELICOPTER			2.50	21.000a	0.000	14.300	
ROCKET EQUIPMENT			0.90	0.700a	3.600a	9.200	
Total Fixed			1,689.97	2.689a	0.068a	6.543	
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	PSM
TK2_WB.P	0.200	1.025	16.41	13.074a	1.821a	1.019	16.61
TK7_WB.P	0.912	1.025	48.69	15.749a	3.418a	2.118	56.58
TK3_FO.P	0.950	0.840	17.32	8.333a	3.442a	1.502	17.04
TK6_FO.P	0.980	0.840	56.65	8.090a	4.162a	2.885	27.22
TK4_FO.S	0.880	0.840	54.65	4.090a	4.147a	2.885	27.26
TK5_FO.P	1.000	0.840	34.66	0.465a	3.066a	1.248	8.00
TK5_FO.S	1.000	0.840	34.66	0.465a	3.066a	1.248	8.00
TK6_FO.P	0.980	0.840	24.13	7.357a	4.589a	1.461	23.81
TK6_FO.S	0.980	0.840	24.13	7.357a	4.589a	1.460	23.98
TK8_FO.P	0.118	1.025	5.55	21.079a	3.254a	0.717	11.23
TK8_FO.S	0.940	0.840	37.71	21.810a	4.117a	3.829	36.66
TK9_FO.P	0.014	1.025	0.43	25.241a	0.716a	2.907	8.98
TK9_FO.S	0.980	0.340	23.84	26.080a	2.775a	4.085	51.58
TK1_WB.P	0.980	1.000	16.56	17.366a	1.517a	1.322	6.88
TK1_FO.S	0.980	1.000	16.56	17.366a	1.521a	1.322	6.88
CPD_OIL.P	0.500	0.890	0.62	11.185a	0.901a	0.435	7.50
SLUDGE.S	0.223	1.020	0.77	11.100a	1.294a	0.404	0.96
SEWAGE.S	0.100	0.850	0.43	18.702a	3.308a	3.285	0.77
POPMOPRA.P	0.512	0.028	38.45	18.859a	0.409a	1.706	42.84
Permeability override: 0.850							
FCDAY.P	0.950	0.840	9.58	18.889a	3.489a	5.929	3.45
Total Tanks			489.07	4.711a	0.325a	2.272	286.23
Total Weight			2,150.04	3.088a	0.393a	8.819	
			Displ (MT)	LCG	TCG	VCG	Keel
HULL		1.025	2,150.04	3.123a	0.023a	2.762	-4.489

Righting Arms: 0.000 0.000a
 Distances in METERS: Moments in m.-MT.

FREEBOARD STATUS

USK DRAFT draft: 4.235 @ 30.255, 4.717 @ 24.434
 Trim: Aft 0.478/54.875, Heel: Stbd 0.29 deg.
 Least freeboard is 2.810 m. located at 32.130a
 Least extra freeboard (to margin line) is 2.734 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
 SHS 11.50 CCGS JOHN P. Tully
 NO.602 - CONF 4-28 @ 3.0M - LOADING DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.478/54.875, Heel: Stbd 0.29 deg., VCU = 3.629

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft---Weight(MT)---LCG---VCG---on trim---GML---GMT
 4.553 2,150.04 3.123a 2.762 1.10 3.742a 29.32 14.80 1.385
 Distances in METERS. Specific Gravity = 1.025. Moment in m.-MT.
 Trim is per 54.88m.
 Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE

Total CG: LCG = 3.088a TCG = 0.008a VCG = 5.629
 Free Surface Adjustment: 0.180
 Adjusted CG: LCG = 3.099a TCG = 0.007a VCG = 5.809

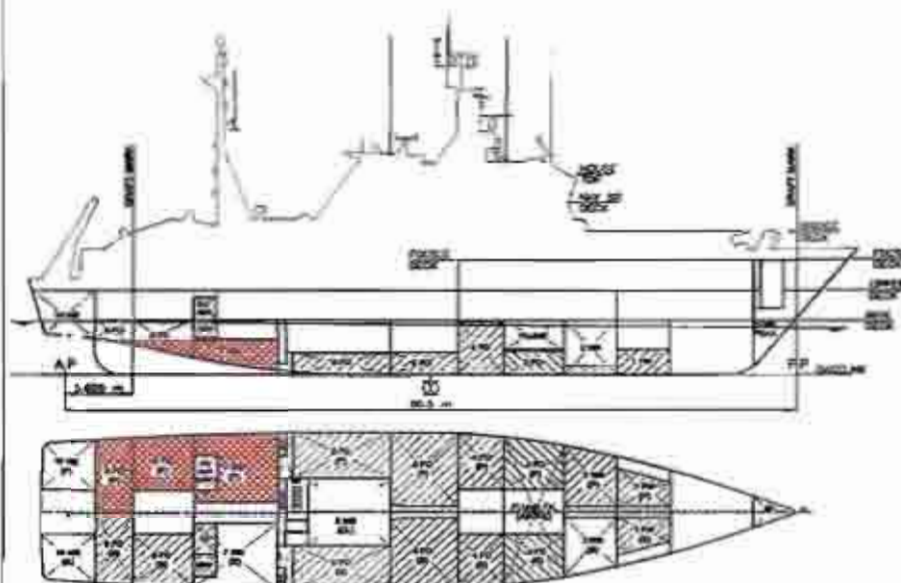
Origin	Degrees of		Displacement	Righting Arms			Filed Pt
Depth	Trim	Heel	Weight (MT)	in Trim	in Heel	Area	Height
4.489	0.50a	0.29a	2,150.34	0.000	0.000	0.0000	6.708(1)
4.492	0.50a	2.79a	2,149.84	0.000	0.061	0.0013	6.397(1)
4.465	0.50a	3.29a	2,149.80	0.000	0.122	0.0053	6.075(1)
4.437	0.48a	7.79a	2,150.04	0.000	0.184	0.0120	5.745(1)
4.399	0.46a	10.29a	2,150.04	0.000	0.246	0.0214	5.407(1)
4.348	0.44a	12.79a	2,150.04	0.000	0.310	0.0339	5.062(1)
4.285	0.40a	15.29a	2,150.03	0.000	0.375	0.0484	4.712(1)
4.216	0.35a	17.79a	2,150.04	0.000	0.442	0.0663	4.358(1)
4.131	0.29a	20.29a	2,150.04	0.000	0.512	0.0871	4.001(1)
4.033	0.23a	22.79a	2,150.06	0.000	0.583	0.1110	3.642(1)
3.987	0.20a	23.87a	2,150.03	0.000	0.614	0.1223	Marg lms.
3.901	0.16a	25.39a	2,150.04	0.000	0.663	0.1380	3.285(1)
3.796	0.11a	27.79a	2,150.04	0.000	0.705	0.1676	2.923(1)
3.661	0.08a	30.29a	2,150.04	0.000	0.737	0.1992	2.556(1)
3.516	0.07a	32.79a	2,150.10	0.000	0.765	0.2318	2.184(1)
3.360	0.08a	35.29a	2,150.13	0.000	0.762	0.2649	1.809(1)
3.287	0.09a	36.41a	2,150.14	0.000	0.763	0.2738	1.640(1)
3.196	0.11a	37.79a	2,150.27	0.000	0.762	0.2981	1.431(1)
3.098	0.16a	40.29a	2,150.14	0.000	0.757	0.3312	1.053(1)
2.833	0.23a	42.79a	2,150.08	0.000	0.749	0.3641	0.674(1)
2.640	0.32a	45.29a	2,150.03	0.000	0.736	0.3986	0.293(1)
2.490	0.39a	47.20a	2,150.33	0.000	0.720	0.4209	-0.000(1)

Distances in METERS. Specific Gravity = 1.025. Area in m.-Rad.

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 386.7 m.-MT was applied to artificially modify the CG.

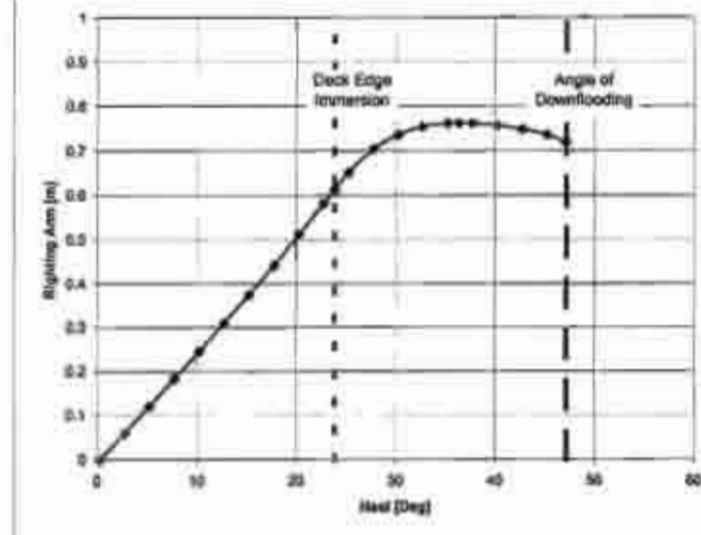
Critical Points: LCG---TCG---VCG
 (1) CAPTAIN'S ROOM WINDOW FLOOD 7.610a 7.000 11.300

Damage Case No.602 - Comp 4-28 @ 3.0 m
IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.48



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.602 - Comp 4-28 @ 3.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) GM at Equilibrium	>	0.050 m	1.384 P
(2) Absolute Angle to Equilibrium	<	10.00 deg	0.25 P
(3) Absolute Angle to Deck/Margin Immersion	>	0.00 deg	22.67 P

01/21/09 08:53:40 STX Canada Marine, Inc.
 GHS 11.50 COGS JOHN P. Tully
 NO.602 - DRAFT 4-28 @ 4.0M - LOADING DEPARTURE CONDITION

WEIGHT AND DISPLACEMENT STATUS
 UNK DRAFT draft: 0.113 @ 30.25F, 4.948 @ 24.43m
 Trim: Aft 0.833/34.875, Heel: Port 4.37 deg.

Part	Weight (MT)	LCG	TCG	VCG			
LIGHT SHIP	1,624.60	2.355m	0.348m	4.467			
APT STORES	3.00	22.350m	1.330m	6.558			
PWD STORES	3.00	30.000m	0.000	8.100			
Galley Stores	14.00	29.200m	0.000	8.000			
Gas in Jetisonable YK	0.68	20.550m	0.100m	11.000			
40 Crew and Effects @ 125	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	13.498m	0.853m	8.130			
UPPER DECK CONTAINER	4.35	26.100m	4.450m	8.900			
POSSIBLE DECK MACHINERY	8.98	8.320m	4.670m	11.000			
POSSIBLE DECK CONTAINER	1.96	14.300m	5.400m	11.300			
HELICOPTER	2.50	21.000m	0.000	10.300			
ROSETTE EQUIPMENT	0.90	0.700m	5.800m	8.000			
Total Fixed	1,699.97	2.859m	0.868m	8.543			
Load	SpGr	Height (MT)	LCG	TCG	VCG	KG	
TK1_WB.F	0.200	1.025	16.63	13.045m	1.911m	1,023	19.17
TK2_WB.F	1.000	1.025	53.34	15.622m	2.952m	2,204	6.91
TK3_PO.F	0.950	0.840	17.32	8.523m	3.488m	1,504	5.18
TK4_PO.F	0.980	0.840	44.65	4.090m	4.172m	2,488	7.73
TK4_PO.S	0.980	0.840	54.65	4.091m	4.188m	2,888	7.73
TK5_PO.F	1.000	0.840	34.66	0.465m	3.044m	1,244	0.00
TK5_PO.S	1.000	0.840	34.66	0.465m	3.066m	1,244	0.00
TK6_PO.F	0.980	0.840	24.12	7.346m	4.619m	1,441	2.17
TK6_PO.S	0.980	0.840	24.12	7.346m	4.641m	1,441	0.04
TK8_PO.F	0.552	1.025	33.32	21.773m	4.044m	3,344	42.05
TK8_PO.S	0.580	0.840	37.71	21.910m	4.040m	3,830	3.95
TK9_PO.F	0.402	1.025	11.93	25.987m	2.582m	2,613	42.87
TK9_PO.S	0.999	0.840	23.84	26.005m	2.713m	4,098	2.41
TK1_TW.F	0.980	1.000	16.56	17.361m	1.534m	1,322	1.21
TK1_TW.S	0.980	1.000	16.56	17.374m	1.551m	1,322	1.54
CPP_OIL.F	0.500	0.590	0.42	11.785m	0.967m	0.427	0.51
SLUDGE.S	0.223	1.000	0.77	11.121m	2.214m	0.408	0.40
SEWAGE.S	0.100	0.990	0.49	18.714m	5.179m	1.290	0.78
FOFUMW.S	0.658	1.025	81.00	16.103m	1.805m	2,678	149.38
Permeability override: 0.850							
FOFAY.F	0.980	0.810	9.58	18.449m	1.510m	1,829	0.79
Total Tanks			539.14	6.820m	0.703m	2,403	429.14
Total Weight			2,239.11	3.668m	0.123m	8.555	
Displ (MT)	LCG	TCG	VCG	Heel			
HEEL	1.025	2,228.99	3.707m	2.337m	2.825	-4.545	
Righting Arm:		0.000	0.400m				
Distances in METERS						Moments in M.-MT.	

THIRDARD STATUS

UNK DRAFT draft: 0.113 @ 30.25F, 4.948 @ 24.43m
 Trim: Aft 0.833/34.875, Heel: Port 4.37 deg.
 Least freshboard is 2.038 m, located at 38.130m
 Least water freshboard (to margin line) is 1.968 m, located at 38.130m

01/21/09 08:53:40 STX Canada Marine, Inc.
 GHS 11.50 COGS JOHN P. Tully
 NO.602 - DRAFT 4-28 @ 4.0M - LOADING DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
 Trim: Aft 0.833/34.875, Heel: Port 4.37 deg., VCG = 3.555

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft---Weight (MT)---LCG---VCG---CM---LCF---CM trim---GML---GMT
 4.962 2,228.99 3.707m 2.825 7.14 5.813m 29.48 72.43 1.453
 Distances in METERS---Specific Gravity = 1.025---Moment in M.-MT.
 Trim is per 24.48m.

Draft is from UNK DRAFT, True Free Surface Included.

RIGHTING ARM vs HEEL ANGLE

Total CG: LCG = 3.668m TCG = 0.123m VCG = 3.555
 Free Surface Adjustment: 0.180
 Adjusted CG: LCG = 3.668m TCG = 0.109m VCG = 3.735

Depth	Trim	Heel	Displacement (MT)	Righting Arm	Area	Flood Pt
4.543	0.87m	4.37p	2,229.11	0.000	0.000	6.071(1)
4.521	0.87m	4.37p	2,229.50	0.000	0.064	2.743(1)
4.498	0.86m	4.37p	2,229.12	0.000	0.130	3.458(1)
4.475	0.86m	4.37p	2,229.11	0.000	0.197	3.083(1)
4.452	0.85m	4.37p	2,229.12	0.000	0.266	2.718(1)
4.429	0.85m	4.37p	2,229.11	0.000	0.339	2.359(1)
4.406	0.84m	4.37p	2,229.11	0.000	0.414	2.001(1)
4.383	0.83m	4.37p	2,229.11	0.000	0.467	Marg Imm.
4.360	0.83m	4.37p	2,229.12	0.000	0.491	3.442(1)
4.337	0.82m	4.37p	2,229.12	0.000	0.568	3.279(1)
4.314	0.82m	4.37p	2,229.12	0.000	0.622	3.093(1)
4.291	0.81m	4.37p	2,229.13	0.000	0.658	2.834(1)
4.268	0.81m	4.37p	2,229.13	0.000	0.681	2.553(1)
4.245	0.80m	4.37p	2,229.12	0.000	0.692	2.169(1)
4.222	0.80m	4.37p	2,229.13	0.000	0.695	1.382(1)
4.199	0.79m	4.37p	2,229.13	0.000	0.695	1.374(1)
4.176	0.79m	4.37p	2,229.13	0.000	0.693	0.894(1)
4.153	0.78m	4.37p	2,229.19	0.000	0.688	0.607(1)
4.130	0.78m	4.37p	2,229.22	0.000	0.688	0.219(1)
4.107	0.77m	4.37p	2,229.53	0.000	0.671	0.001(1)

Distances in METERS --- Specific Gravity = 1.025 --- Area in m^2

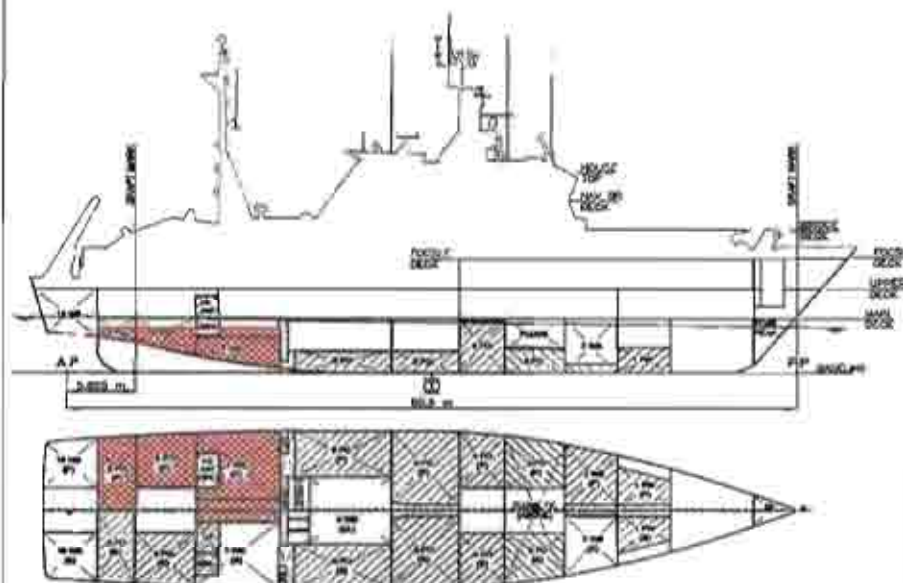
Distances in METERS---Specific Gravity = 1.025---Area in M.-Rad.

Note: The Weight and Center of Gravity used for the righting arm 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 602.1 m.-MT was applied to artificially modify the CG.

Critical Point: LCG TCG VCG
 (1) CAPTAIN'S ROOM WINDOW FLOOD 7.830m 7.000 11.300

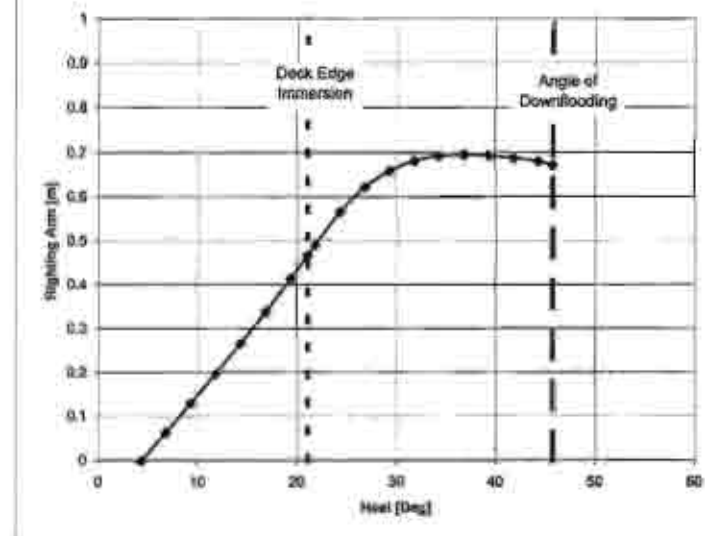
Damage Case No.603 - Comp 4-28 @ 4.0 m

IMPORTANT! SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG.48



NOTE: Helicopter included in case not depicted in diagram above.

Damage Case No.603 - Comp 4-28 @ 4.0 m



DAMAGE STABILITY CRITERIA		Min/Max	Attained
(1) GM at Equilibrium	>	0.050 m	1.453 m
(2) Absolute Angle at Equilibrium	<	15.00 Deg	1.37 °
(3) Absolute Angle at Deck/margin Immersion	>	0.00 Deg	21.10 °

01/21/09 08:53:40 STX Canada Marine, Inc.
GWS 11.50 CCGS JOHN P. Tully
NO. 604 - COMPT 4-25 @ 4.5m - LOADLINE DEPARTURE CONDITION

WEIGHT AND DISPLACEMENT STATUS
USK DRAFT: 4.031 @ 30.25t, 5.081 @ 24.43t
Trim: Aft 1.043/54.875, Heel: Port 4.84 deg.

Part			Weight (MT)	LCG	TCG	VCG	
LIGHT SHIP			1,624.60	2.355a	0.048a	6.457	
AFT STORES			5.00	22.355a	1.330p	6.556	
FWD STORES			3.00	30.000c	0.000	8.500	
Galley Stores			14.00	28.250f	0.000	6.000	
Gas in Jacksonville T1			0.68	20.250a	4.100p	11.000	
40 Cans and Effects @ 125			5.00	0.000	0.000	11.000	
UPPER DECK MACHINERY			17.10	19.490a	0.050a	8.120	
UPPER DECK CONTAINER			4.35	28.100a	4.650p	8.600	
PODSIDE DECK MACHINERY			8.98	6.320a	4.670a	11.000	
PODSIDE DECK CONTAINER			3.86	14.250a	5.480p	11.300	
HELICOPTER			2.50	21.000f	0.000	14.300	
ROSETTE EQUIPMENT			0.90	0.700a	5.600a	9.000	
Total Fixed			1,689.97	2.659a	0.069a	6.543	
	Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSW
TK2_WB.F	0.200	1.025	10.62	13.028f	1.963p	1.028	20.61
TK7_WB.F	1.000	1.025	53.34	15.822a	3.552p	2.204	0.01
TK3_FO.F	0.950	0.840	17.32	9.323f	3.507p	1.504	2.69
TK4_FO.F	0.980	0.840	54.44	4.089f	4.176p	2.886	4.01
TK4_FO.S	0.980	0.840	54.64	4.091f	4.113a	2.886	2.08
TK5_FO.F	1.000	0.840	34.66	0.465a	3.066p	1.248	0.00
TK5_FO.S	1.000	0.840	34.66	0.465a	3.066a	1.248	0.00
TK6_FO.F	0.980	0.840	24.12	7.346a	4.621p	1.461	1.10
TK6_FO.S	0.980	0.840	24.12	7.346a	4.559a	1.461	1.03
TK8_FO.F	0.800	1.025	37.50	21.877a	4.197p	3.645	94.73
TK8_FO.S	0.980	0.840	37.71	21.911a	4.078a	3.830	2.03
TK9_FO.F	0.729	1.025	21.65	26.073a	2.993p	3.915	71.41
TK9_FO.S	0.980	0.840	23.44	28.055a	2.710a	4.096	1.22
TK1_FW.F	0.980	1.000	16.56	17.341f	1.536p	1.322	0.62
TK1_FW.S	0.980	1.000	16.56	17.377f	1.490a	1.323	0.86
UFF_OIL.F	0.500	0.890	0.62	11.186a	1.002p	0.441	0.51
SLUDGE.S	0.223	1.000	0.77	11.129a	1.181a	0.411	0.86
SEWAGE.S	0.100	0.890	0.49	18.720a	5.108a	3.297	0.79
FOAMING.F	0.648	1.025	104.41	16.124a	2.247p	3.040	193.57
Permeability override:	0.850						
FOAM.F	0.980	0.840	9.58	18.689a	3.521p	5.930	0.40
Total Tanks			583.89	7.426a	0.958p	2.598	349.64
Total Weight			2,273.87	3.885a	0.194p	5.530	
			Displ (MT)	LCG	TCG	VCG	Heel (deg)
DISPL	1.025		2,273.86	4.036a	0.512p	2.888	-6.56

Distances in METERS: Righting Arms: 0.000 0.000p Moments in m.-MT: 1.025

FREEBOARD STATUS
USK DRAFT: 4.031 @ 30.25t, 5.081 @ 24.43t
Trim: Aft 1.043/54.875, Heel: Port 4.84 deg.
Least freeboard is 1.571 m. located at 32.130a
Least extra freeboard (to margin line) is 1.499 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
GWS 11.50 CCGS JOHN P. Tully
NO. 604 - COMPT 4-25 @ 4.5m - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES
Trim: Aft 1.043/54.875, Heel: Port 4.84 deg., VCG = 5.130

LCF Displacement Buoyancy-Ctr. Weight/ Moments/
Draft: Weight (MT) LCG VCG LCF CG trim Cnt Cnt
4.721 2,273.86 4.036a 2.888 7.16 1.834a 29.52 71.25 1.529
Distances in METERS: Specific Gravity = 1.025 Moment in m.-MT.
Trim is per 54.80a.

Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARMS vs HEEL ANGLE
Total CG: LCG = 3.985a TCG = 0.194p VCG = 5.530
Free Surface Adjustment: 0.150
Adjusted CG: LCG = 3.988a TCG = 0.178p VCG = 5.683

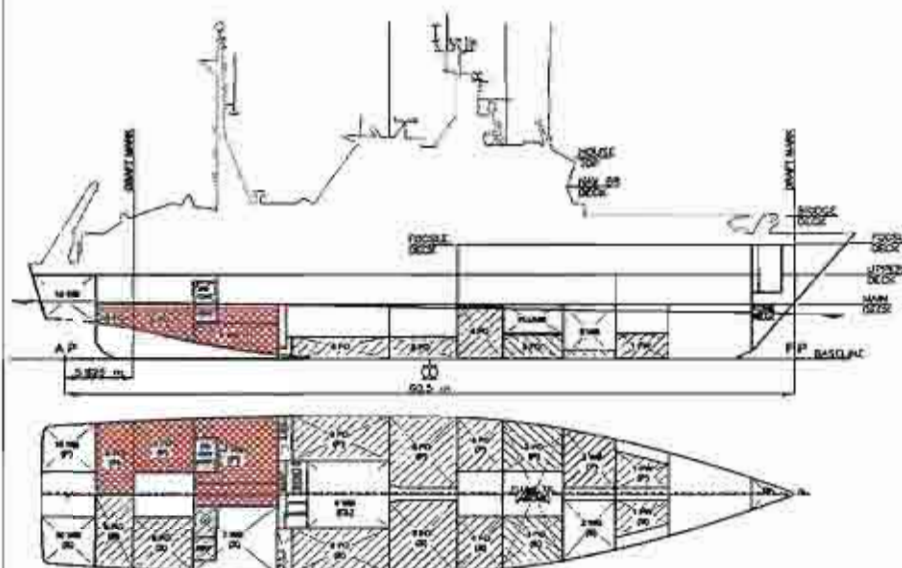
Origin	Degrees of	Displacement	Righting Arms	Flood Pt
Depth	Trim	Heel	Weight (MT)	In Trim--In Heel--Area--Height
4.542	1.07a	8.84p	2,273.86	0.000 0.000 0.0000 5.677(1)
4.528	1.05a	9.34p	2,273.86	0.000 0.000 0.0015 5.340(1)
4.483	1.07a	11.84p	2,273.87	0.000 0.138 0.0040 4.996(1)
4.427	1.05a	14.34p	2,273.87	0.000 0.210 0.0136 4.646(1)
4.360	1.02a	16.84p	2,273.86	0.000 0.286 0.0244 4.291(1)
4.281	0.97a	19.34p	2,273.86	0.000 0.365 0.0386 3.933(1)
4.276	0.97a	19.49p	2,273.86	0.000 0.370 0.0396 Marg Yaw
4.190	0.92a	21.84p	2,273.87	0.000 0.447 0.0563 3.571(1)
4.088	0.88a	24.34p	2,273.87	0.000 0.520 0.0774 3.204(1)
3.976	0.86a	26.84p	2,273.87	0.000 0.575 0.1014 2.829(1)
3.858	0.87a	29.34p	2,273.87	0.000 0.612 0.1273 2.446(1)
3.728	0.89a	31.84p	2,274.19	0.000 0.634 0.1545 2.059(1)
3.597	0.94a	34.34p	2,274.20	0.000 0.646 0.1825 1.669(1)
3.435	1.00a	36.84p	2,274.16	0.000 0.651 0.2108 1.270(1)
3.362	1.03a	37.99p	2,273.93	0.000 0.652 0.2338 1.098(1)
3.273	1.08a	39.34p	2,274.26	0.000 0.651 0.2392 0.885(1)
3.100	1.17a	41.84p	2,273.98	0.000 0.648 0.2676 0.492(1)
2.919	1.28a	44.34p	2,273.88	0.000 0.641 0.2957 0.099(1)
2.873	1.31a	44.97p	2,273.87	0.000 0.638 0.3027 0.000(1)

Distances in METERS: Specific Gravity = 1.025 Area in m.-Rad.

Notes: 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 349.6 m.-MT was applied to artificially modify the CG.

Critical Point: LCG VCG
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.900 11.300

IMPORTANT: SEE NOTE REGARDING VERTICAL EXTENT OF DAMAGE ON PG. 4B



Damage Case No. 604 - Comp 4-28 @ 4.5 m

Righting Arm (m)

Heel (Deg)

Deck Edge Immersion

Angle of Downflooding

Heel (Deg)	Righting Arm (m)
7	0.00
10	0.07
13	0.13
16	0.21
19	0.29
21	0.37
23	0.44
25	0.51
28	0.58
31	0.63
34	0.65
37	0.65
40	0.65
43	0.64
45	0.63

LINE	DESIGN STABILITY CRITERIA	Min/Max	Attained
(1)	GM at Equilibrium	> 0.050 m	1.529 F
(2)	Absolute Angle at Equilibrium	< 15.00 deg	6.34 F
(3)	Absolute Angle at Deck/Margin Immersion	> 6.00 deg	19.49 F

01/11/09 08:53:42 STX Canada Marine, Inc.
 SHS 11.30 CDS JOHN P. Tully
 NO.425 - COMPT 4-28 @ 4.98 - LOADING DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
 USN DRAFT draft: 3.956 @ 30.356, 5.188 @ 24.13a
 Trim: Aft 1.211/34.875, Heel: Port 7.94 deg.

Fast	Weight (MT)	LCG	TCG	YCG
LIGHT SHIP	1,634.60	2.595a	0.048a	5.457
APV STORES	5.00	22.350a	1.330p	6.556
PUB STORES	3.00	30.000a	0.000	8.500
Sally Stores	14.00	20.250a	0.000	6.000
Gas in Jettisonable Tx	0.00	20.250a	0.000	11.000
40 Crew and Effects & ISS	5.00	0.000	0.000	11.000
UPPER DECK MACHINERY	17.10	19.450a	0.050a	8.130
UPPER DECK CONTAINER	4.35	24.100a	4.650p	8.600
PODSLE DECK MACHINERY	8.98	8.320a	4.470a	11.300
PODSLE DECK CONTAINER	3.26	14.350a	5.400p	11.300
HELICOPTER	2.50	21.000a	0.000	14.300
ROSETTE EQUIPMENT	0.38	0.700a	5.600a	9.000
Total Fixed	1,689.97	2.659a	0.069a	5.542

Load	Spd	Weight (MT)	LCG	TCG	YCG	Trim
TK1_WB.F	0.200	1.028	16.63	13.818a	1.989p	1.031
TK3_FO.F	0.850	0.840	17.32	8.321a	2.510p	1.505
TK4_FO.F	0.980	0.940	34.65	4.069a	4.177p	2.804
TK4_FO.S	0.980	0.940	34.65	4.069a	4.177p	2.804
TK5_FO.F	1.000	0.810	34.66	0.465a	3.066p	1.248
TK5_FO.S	1.000	0.810	34.66	0.465a	3.066p	1.248
TK6_FO.F	0.980	0.840	24.12	7.340a	4.622p	1.481
TK6_FO.S	0.980	0.840	24.12	7.340a	4.622p	1.481
TK7_FO.S	0.980	0.810	27.71	21.612a	4.075a	2.830
TK8_FO.S	0.980	0.840	23.84	24.099a	2.709a	4.096
TK9_FO.F	0.980	1.000	16.16	17.360a	1.537a	1.323
TK1_FO.S	0.980	1.000	16.16	17.360a	1.537a	1.323
CPP OIL.F	0.500	0.890	0.62	11.166a	1.019p	0.443
SLUDGE.S	0.323	1.000	0.77	11.134a	1.170p	0.413
SEWAGE.S	0.100	0.980	0.49	18.728a	5.078a	2.301
FOGAY.F	0.980	0.940	9.58	16.489a	3.921p	5.930
Total Tanka			366.94	1.787a	0.230a	2.249
Total Weight			2,056.92	2.503a	0.099a	3.794

Righting Arm	LCG	TCG	YCG	Righting Arm
TK1_WB.F	1.028	2.309a	4.291a	0.588p
TK3_FO.F	0.850	-33.34	19.823a	3.501p
TK4_FO.F	0.980	-44.96	21.905a	6.117p
TK5_FO.F	1.000	-29.69	20.093a	2.773p
TK6_FO.F	1.000	-123.07	14.108a	2.137p
Total Displacement	1.028	1,004.83	2.509a	0.307p

Righting Arm	LCG	TCG	YCG	Righting Arm
TK1_WB.F	1.028	2.309a	4.291a	0.588p
TK3_FO.F	0.850	-33.34	19.823a	3.501p
TK4_FO.F	0.980	-44.96	21.905a	6.117p
TK5_FO.F	1.000	-29.69	20.093a	2.773p
TK6_FO.F	1.000	-123.07	14.108a	2.137p
Total Displacement	1.028	1,004.83	2.509a	0.307p

Distances in METERS
 Righting Arm: 0.000 0.000p
 Moments in M.-MT.
 BACKBOARD STATUS
 USN DRAFT draft: 3.966 @ 30.356, 5.188 @ 24.13a
 Trim: Aft 1.211/34.875, Heel: Port 7.94 deg.
 Least Freeboard is 1.903 m. located at 23.130a
 Least extra freeboard (no margin limit) is 1.227 m. located at 33.130a

01/11/09 08:53:42 STX Canada Marine, Inc.
 SHS 11.30 CDS JOHN P. Tully
 NO.425 - COMPT 4-28 @ 4.98 - LOADING DEPARTURE CONDITION

HYDROSTATIC PROPERTIES with FLOODING
 Trim: Aft 1.211/34.875, Heel: Port 7.94 deg., YCG = 1.794

LCF Displacement	Righting Arm	Weight	Height	LCF	Righting Arm	Height
Draft: 4.770	2.054a	2.588a	2.891	7.13	6.643a	29.62
Distance in METERS	Specific Gravity = 1.025	Area in M.-MT				
	Trim is per 64.88a					

Draft is from USN DRAFT. True Free Surface included.

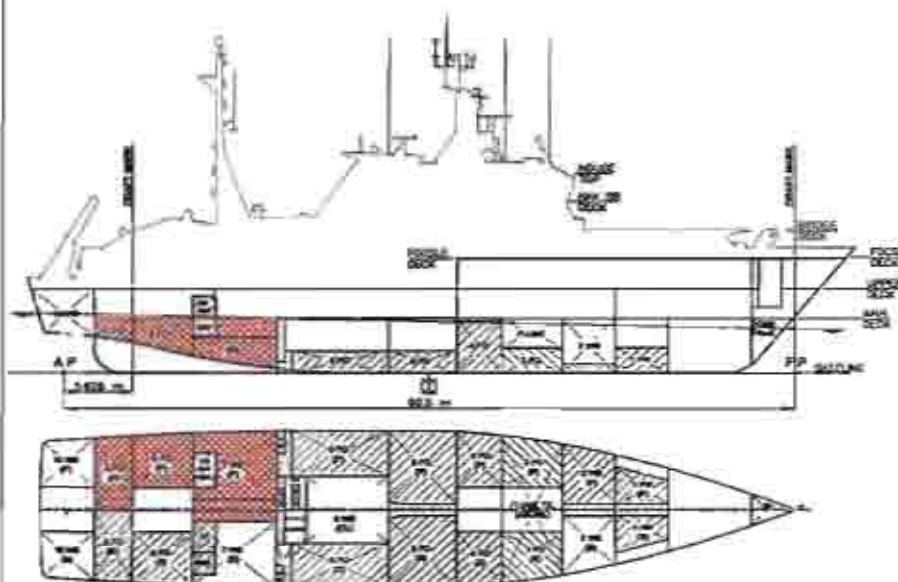
RIGHTING ARM vs HEEL ANGLE with FLOODING
 Total CG: LCG = 1.503a YCG = 0.099a YCG = 1.794
 Free Surface Adjustment: 0.018
 Adjusted CG: LCG = 1.504a YCG = 0.118a YCG = 1.812

Depth	Righting Arm	Displacement	Righting Arm	Flood Pt
4.581	1.23a	7.98p	2,057.24	0.000
4.541	1.23a	10.48p	2,056.82	0.000
4.491	1.24a	12.98p	2,056.42	0.000
4.430	1.21a	15.48p	2,056.02	0.000
4.358	1.18a	17.98p	2,055.61	0.000
4.287	1.17a	19.98p	2,055.21	0.000
4.216	1.17a	20.48p	2,054.82	0.000
4.179	1.08a	22.98p	2,055.42	0.000
4.076	1.08a	25.48p	2,055.02	0.000
3.964	1.08a	27.98p	2,054.61	0.000
3.883	1.11a	30.48p	2,054.21	0.000
3.711	1.11a	32.98p	2,053.82	0.000
3.567	1.21a	35.48p	2,054.42	0.000
3.423	1.23a	37.98p	2,055.02	0.000
3.269	1.28a	40.48p	2,055.61	0.000
3.116	1.41a	42.98p	2,056.21	0.000
2.975	1.49a	45.48p	2,056.82	0.000
2.872	1.58a	47.98p	2,057.42	0.000
Distances in METERS	Specific Gravity = 1.025	Area in M.-MT		

Note: The Weight and Center of Gravity used for the righting arm 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 37.1 M.-MT was applied to artificially modify the CG.

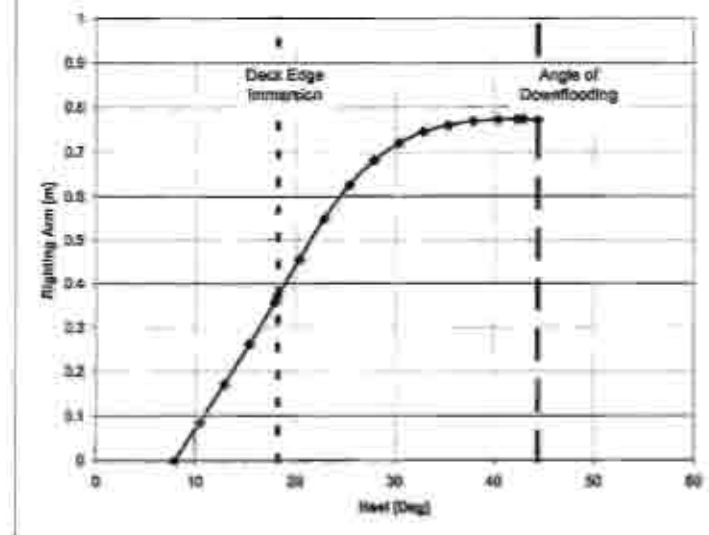
Critical Point: LCG = 1.503a YCG = 0.099a YCG = 1.794
 (3) CAPTAIN'S ROOM WINDOW FLOOD 7.430a 7.600 11.360

Damage Case No.605 - Comp 4-28 @ 4.9 m
IMPORTANT! SEE NOTES REGARDING VERTICAL EXTENT OF DAMAGE ON PG. 49



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.605 - Comp 4-28 @ 4.9 m



DAMAGE STABILITY CRITERIA			
(1) GM at Equilibrium	>	0.950	m
(2) Absolute Angle at Equilibrium	<	15.03	deg
(3) Absolute Angle at Deck/margin Immersion	>	9.00	deg

01/21/09 08:53:40 STX Canada Marine, Inc.
 GNS 11.50 COGS JOHN P. Tully
 NO.700 - COMPT AFT-4 @ 4.3M - LEADLINE DEPARTURE CONDITION

HEIGHT and DISPLACEMENT STATUS
 USK DRAFT draft: 4.134 @ 30.25% 4.724 @ 24.63%
 Trim: Aft 0.388/34.87% Heel: Stbd 0.48 deg.

Fast	Weight	LCB	TCB	VCG			
LIGHT SHIP	1,424.40	2.595a	0.048a	6.457			
AFT STORES	3.00	22.350a	1.370p	4.854			
POD STORES	3.00	30.000a	0.000	8.000			
Galley Stores	14.00	20.350a	0.000	8.000			
Gas in Jettisonable Tank	0.68	25.250a	6.100p	11.000			
44 Crew and Effects @ 120	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	28.400a	0.000	8.130			
UPPER DECK CONTAINER	4.85	28.100a	0.000p	8.600			
PODSIDE DECK MACHINERY	8.98	4.320a	4.670p	12.002			
PODSIDE DECK CONTAINER	3.84	14.350a	5.400p	11.300			
HELICOPTER	2.50	21.000a	0.000	14.300			
ROCKET EQUIPMENT	0.90	0.700a	1.400a	9.000			
Total Fixed----->	1,889.97	2.439a	0.048a	6.443			
Lead	SpGr	Height (MT)	LCB	TCB	VCG	FSH	
TK2_HB.F	0.900	1.025	16.61	13.071a	1.618p	1.018	16.54
TK4_FC.F	0.950	0.840	17.32	0.210a	3.430p	1.509	17.00
TK4_FC.F	0.900	0.840	54.45	0.200a	4.141p	2.865	27.21
TK5_FC.F	0.980	0.840	34.45	0.000a	4.141a	2.865	27.37
TK6_FC.F	1.000	0.840	34.60	0.400a	3.060p	1.248	0.00
TK7_FC.F	1.000	0.840	34.64	0.400a	3.060a	1.248	0.00
TK8_FC.F	0.980	0.840	28.13	1.340a	4.183p	1.640	20.73
TK9_FC.F	0.980	0.840	24.13	1.000a	4.257a	1.440	20.00
TK10_FC.F	0.980	0.840	37.71	21.913a	4.100p	3.829	34.49
TK11_FC.F	0.980	0.840	37.71	21.912a	4.125a	3.829	34.58
TK12_FC.F	0.980	0.840	23.85	24.057a	2.740p	4.095	49.70
TK13_FC.F	0.980	0.840	23.81	24.057a	2.780a	4.095	44.82
TK14_FC.F	0.980	1.000	16.56	17.044a	1.510p	1.322	6.75
TK15_FC.F	0.980	1.000	16.56	17.044a	1.522a	1.322	4.30
CPP_CIL.F	0.900	0.890	2.42	11.100a	0.890p	0.435	0.55
SLUDGE.S	0.233	1.000	0.77	11.102a	1.298a	0.405	0.94
SEWAGE.S	0.100	0.890	9.49	18.704a	5.110a	2.285	0.77
FOODAV.F	0.960	0.940	9.49	18.400a	5.187a	5.529	7.19
TK16_HB.S	0.117	1.025	0.04	29.571a	3.517a	4.207	21.45
Total Tanker----->			436.65	5.168a	0.203p	2.602	328.29
Total Weight----->			2,326.62	2.212a	0.012a	5.740	
Displ (MT)	LCB	TCB	VCG	Reft			
2,326.62	4.244a	4.028a	1.724	-4.444			

Righting Arm: 0.000 0.000a
 Distances in METERS: 0.000a 0.000a
 Computer in M.-MT.

FREEDBOARD STATUS

USK DRAFT draft: 4.134 @ 30.25% 4.724 @ 24.63%
 Trim: Aft 0.388/34.87% Heel: Stbd 0.48 deg.
 Lowest Freeboard is 7.769 m. located at 32.130a
 Least extra freeboard (to margin line) is 2.693 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
 GNS 11.50 COGS JOHN P. Tully
 NO.700 - COMPT AFT-4 @ 4.3M - LEADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES

Trim: Aft 0.388/34.87% Heel: Stbd 0.48 deg., VCG = 5.734

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
 Draft--Weight (MT)--LCB--TCB--VCG--LCF--en trim--GML--GNT
 4.520 2,126.33 5.240a 2.724 7.08 5.798a 29.14 15.21 1.322
 Distances in METERS: Specific Gravity = 1.025 Moment in M.-MT.
 Trim is per 54.88m.
 Draft is from USK DRAFT. True Free Surface included.

RIGHTING ARM vs HEEL SHAPE
 Total CG: LCB = 3.214a TCB = 0.012a VCG = 5.734
 Free Surface Adjustment: 0.159
 Adjusted CG: LCB = 3.214a TCB = 0.012a VCG = 5.893

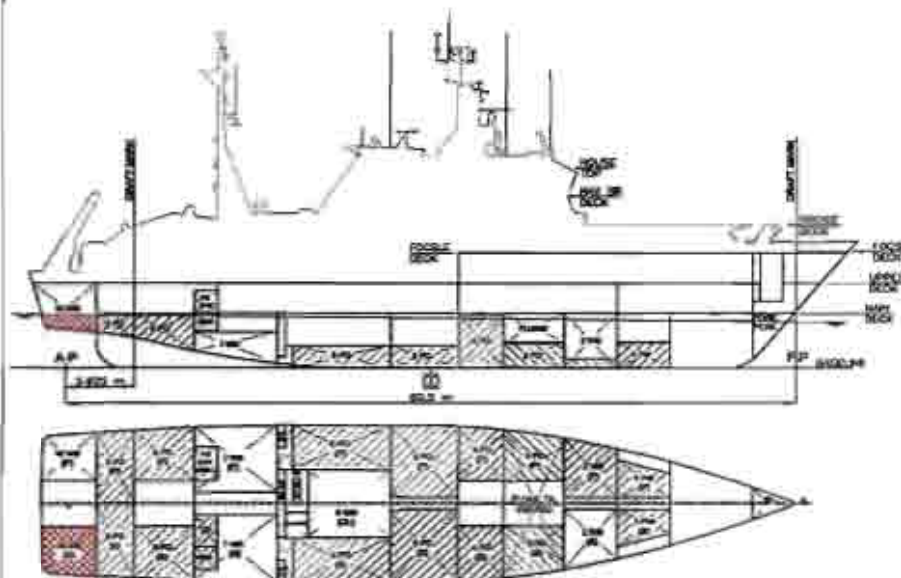
Origin	Degrees of	Displacement	Righting Arm	Flare Pt			
Depth	Trim	Heel	Weight (MT)	Area	Height		
4.544	0.61a	0.43a	2,126.83	0.000	0.000	4.715(1)	
4.427	0.61a	2.90a	2,126.33	0.000	0.058	4.402(1)	
4.419	0.61a	5.48a	2,126.13	0.000	0.117	0.001	6.000(1)
4.393	0.55a	7.98a	2,126.33	0.000	0.176	0.015	3.748(1)
4.352	0.57a	10.48a	2,126.52	0.000	0.238	0.020	5.610(1)
4.302	0.54a	12.98a	2,126.52	0.000	0.297	0.021	5.064(1)
4.241	0.50a	15.48a	2,126.57	0.000	0.359	0.044	4.714(1)
4.148	0.45a	17.98a	2,126.51	0.000	0.424	0.063	4.258(1)
4.084	0.38a	20.48a	2,126.52	0.000	0.491	0.084	4.001(1)
3.983	0.32a	22.98a	2,126.32	0.000	0.559	0.104	3.642(1)
3.941	0.30a	23.91a	2,126.45	0.000	0.584	0.136	Margin
3.872	0.25a	26.48a	2,126.52	0.000	0.624	0.132	3.284(1)
3.717	0.20a	28.98a	2,126.52	0.000	0.671	0.140	2.922(1)
3.611	0.18a	30.18a	2,126.52	0.000	0.698	0.190	2.555(1)
3.465	0.15a	32.58a	2,126.60	0.000	0.711	0.221	2.183(1)
3.339	0.12a	35.01a	2,126.83	0.000	0.714	0.248	1.879(1)
3.209	0.17a	35.48a	2,126.63	0.000	0.714	0.252	1.806(1)
3.158	0.17a	36.10a	2,126.64	0.000	0.713	0.260	1.716(1)
3.143	0.18a	37.00a	2,126.82	0.000	0.709	0.263	1.631(1)
2.964	0.24a	40.48a	2,126.85	0.000	0.700	0.312	1.032(1)
2.790	0.21a	42.98a	2,126.60	0.000	0.689	0.345	0.673(1)
2.565	0.28a	45.48a	2,126.59	0.000	0.674	0.374	0.293(1)
2.425	0.48a	47.40a	2,126.41	0.000	0.634	0.396	-0.008(1)

Distances in METERS: Specific Gravity = 1.025 Area in M.-Sq.

NOTE: The Weight and Center of Gravity used for the righting arm 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 338.2 M.-MT was applied to artificially modify the CG.

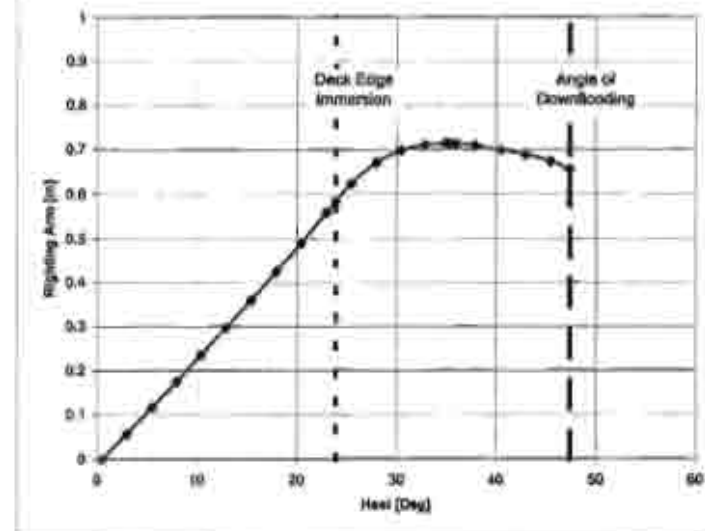
Critical Point: LCB--TCB--VCG
 (1) CAPTAIN'S ROOM WINDOW FLOCS 7.630a 7.000 11.300

Damage Case No.700 - Comp Aft-4 @ 4.5 m



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.700 - Comp Aft-4 @ 4.5 m



DAMAGE STABILITY CRITERIA				Min/Max	Attained
(1)	GM at Equilibrium	>	0.050	m.	1.322
(2)	Absolute Angle at Equilibrium	<	15.00	deg	0.48
(3)	Absolute Angle at Deck/margin Immersion	>	0.00	deg	23.91

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.701 - COMPT AFT-4 # 4.9M - LOADLINE DEPARTURE CONDITION

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 4.110 @ 30.25t, 4.749 @ 24.63t
Trim: Aft 0.638/54.875, Heel: Stbd 1.00 deg.

Part	Weight (MT)	LCG	TCG	VCG			
LIGHT SHIP	1,624.60	2.595a	0.048s	6.457			
AFT STORES	5.00	22.350a	1.530p	6.556			
FWD STORES	3.00	30.000f	0.000	8.500			
Galley Stores	14.00	20.250f	0.000	6.000			
Gas in Jettisonable Tks	0.68	20.250a	6.100p	11.000			
40 Crew and Effects @ 125	5.00	0.000	0.000	11.000			
UPPER DECK MACHINERY	17.10	19.490a	0.050s	8.130			
UPPER DECK CONTAINER	4.35	26.100a	4.650p	8.600			
POCSLE DECK MACHINERY	8.98	8.320a	4.670a	11.000			
POCSLE DECK CONTAINER	1.86	14.350a	5.480s	11.300			
HELICOPTER	2.50	21.000f	0.000	14.300			
ROSBITE EQUIPMENT	0.90	0.700a	5.600s	9.000			
Total Fixed----->	1,689.97	2.659a	0.088a	6.543			
Load	SpGr	Weight (MT)	LCG	TCG	VCG	FSH	
TK2_WB.P	0.200	1.025	16.62	13.072f	1.809p	1.019	16.31
TK3_FO.P	0.950	0.840	17.32	0.331f	3.430p	1.502	16.95
TK4_FO.P	0.980	0.840	54.65	4.090f	4.136p	2.885	27.19
TK4_FO.S	0.980	0.840	54.65	4.089f	4.133a	2.885	27.32
TK5_FO.P	1.000	0.840	34.66	0.485a	3.066p	1.248	0.00
TK5_FO.S	1.000	0.840	34.66	0.485a	3.066a	1.248	0.00
TK6_FO.P	0.980	0.840	24.12	7.358a	4.575p	1.460	17.46
TK6_FO.S	0.980	0.840	24.12	7.358a	4.604a	1.460	17.48
TK8_FO.P	0.980	0.840	37.71	21.912a	4.097p	3.829	27.69
TK8_FO.S	0.980	0.840	37.71	21.912a	4.128a	3.829	28.74
TK9_FO.P	0.980	0.840	23.84	26.096a	2.730p	4.095	22.74
TK9_FO.S	0.980	0.840	23.85	26.096a	2.797a	4.095	22.90
TK1_FW.P	0.980	1.000	16.56	17.565f	1.512p	1.322	5.92
TK1_FW.S	0.980	1.000	16.56	17.560f	1.526a	1.322	4.44
CPP_OIL.P	0.500	0.580	0.62	11.185a	0.891p	0.435	0.50
SLUDGE.S	0.223	1.000	0.77	11.102a	1.310s	0.405	1.02
SEWAGE.S	0.100	0.890	0.69	18.707a	5.328s	3.285	0.77
PODAY.P	0.980	0.840	9.58	18.689a	3.494p	5.929	2.49
Total Tanks----->			428.49	4.912a	0.269p	2.577	270.97
Total Weight----->			2,118.46	3.114a	0.000	5.740	
Displ (MT)	LCG	TCG	VCG	BuZnt			
HULL	1.025	2,133.31	3.331a	0.078s	2.731	-4.44f	
TK10_WB.S	Flooded 1.025	-14.96	29.715a	3.760s	4.422	-4.45f	
Total Displacement-->	1.025	2,118.76	3.150a	0.053a	2.720		
Righting Arms			0.000	0.005a			
Distances in METERS							
						Distances in m. -M	

FREEDBOARD STATUS
USK DRAFT draft: 4.110 @ 30.25t, 4.749 @ 24.63t
Trim: Aft 0.638/54.875, Heel: Stbd 1.00 deg.
Least freeboard is 2.671 m. located at 32.130a
Least extra freeboard (to margin line) is 2.595 m. located at 32.130a

01/21/09 08:53:40 STX Canada Marine, Inc.
GHS 11.50 CCGS JOHN P. Tully
NO.701 - COMPT AFT-4 # 4.9M - LOADLINE DEPARTURE CONDITION

HYDROSTATIC PROPERTIES with FLOODING
Trim: Aft 0.638/54.875, Heel: Stbd 1.00 deg., VCG = 5.740

LCF Displacement Buoyancy-Ctr. Weight/ Moment/
Draft---Weight(MT)---LCB---VCG---cm---LCF---in trim---GML---GNT
4.522 2,118.76 3.150a 2.720 6.90 5.172a 27.14 70.29 1.217
Distances in METERS.---Specific Gravity = 1.025.---Moment in m.-MT.
Trim is per 54.88m. True Free Surface included.

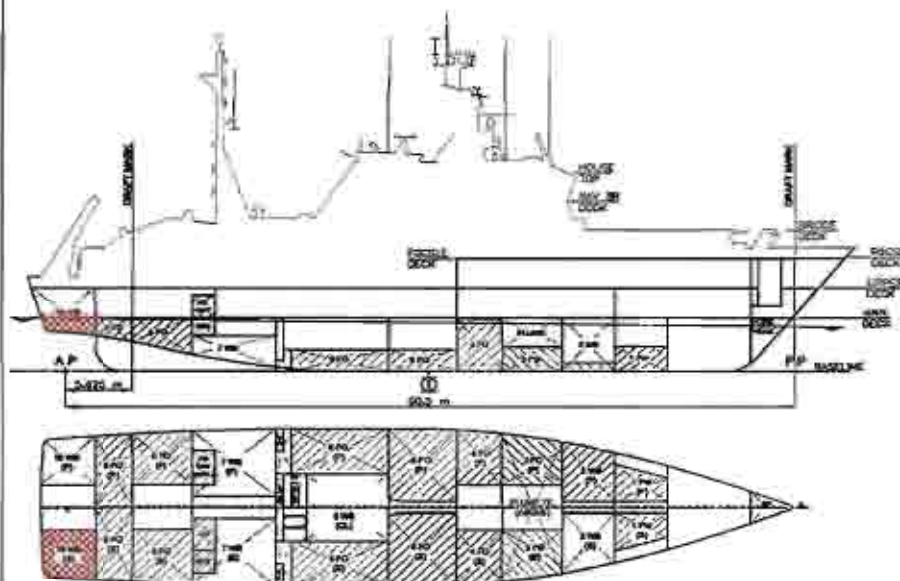
RIGHTING ARMS vs KEEL ANGLE with FLOODING
Total CG: LCG = 3.114a TCG = 0.000 VCG = 5.740
Free Surface Adjustment: 0.114
Adjusted CG: LCG = 3.116a TCG = 0.002p VCG = 5.854

Origin	Degrees of	Displacement	Righting Arms	Flood Pt		
Depth	Trim	Heel	Height (MT)	Area	Height	
4.447	0.67a	1.00a	2,118.53	0.000	0.0000	6.339(1)
4.439	0.70a	3.50a	2,118.46	0.000	0.053	6.318(1)
4.422	0.72a	6.00a	2,118.46	0.000	0.107	5.987(1)
4.393	0.75a	8.50a	2,118.46	0.000	0.162	5.647(1)
4.355	0.76a	11.00a	2,118.47	0.000	0.212	5.300(1)
4.305	0.76a	13.50a	2,118.60	0.000	0.276	4.946(1)
4.245	0.76a	16.00a	2,118.67	0.000	0.336	4.586(1)
4.172	0.75a	18.50a	2,118.46	0.000	0.400	4.222(1)
4.088	0.72a	21.00a	2,118.47	0.000	0.466	3.855(1)
4.060	0.71a	21.76a	2,118.46	0.000	0.488	3.488(1)
3.991	0.69a	23.50a	2,118.47	0.000	0.532	3.096(1)
3.881	0.67a	26.00a	2,118.47	0.000	0.589	2.738(1)
3.762	0.67a	28.50a	2,118.52	0.000	0.624	2.381(1)
3.634	0.69a	31.00a	2,118.91	0.000	0.643	2.355(1)
3.494	0.73a	33.50a	2,118.74	0.000	0.648	1.968(1)
3.478	0.73a	36.00a	2,118.63	0.000	0.648	1.927(1)
3.343	0.78a	36.00a	2,118.47	0.000	0.645	1.579(1)
3.184	0.86a	38.50a	2,118.62	0.000	0.636	1.187(1)
3.014	0.94a	41.00a	2,118.48	0.000	0.624	0.796(1)
2.834	1.05a	43.50a	2,118.64	0.000	0.610	0.404(1)
2.646	1.16a	46.00a	2,117.98	0.000	0.591	0.013(1)
2.642	1.16a	48.00a	2,118.89	0.000	0.591	-0.002(1)
Distances in METERS.-----Specific Gravity = 1.025.-----Area in M.-Sqd.						

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 241.0 m.-MT was applied to artificially modify the CG.

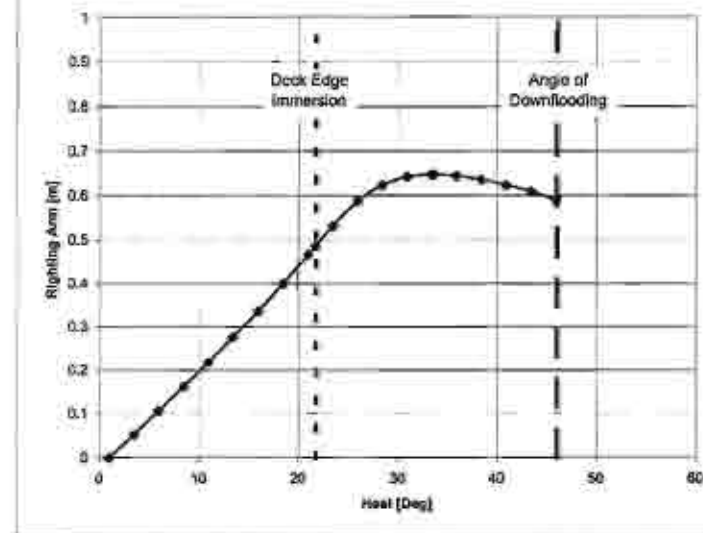
Critical Point: LCF---TCG---VCG
(1) CAPTAIN'S ROOM WINDOW FLOOD 7.630a 7.000 11.300

Damage Case No.701 - Comp Aft-4 @ 4.9 m



NOTE: Helicopter included in case (not depicted in diagram above).

Damage Case No.701 - Comp Aft-4 @ 4.9 m



DAMAGE STABILITY CRITERIA			Rin/Max	Attained
(1)	GM at Equilibrium	>	0.050 m	1.217 m
(2)	Absolute Angle at Equilibrium	<	15.00 deg	1.00 deg
(3)	Absolute Angle at Deck/margin Immersion	>	0.00 deg	21.76 deg

Appendix A - Inclining Report

EXECUTIVE SUMMARY

STX Canada Marine has performed an inclining experiment for the Canadian Coast Guard Ship the "John P. Tully" on Tuesday, December 16th, 2008. The derived lightship weight and centres of gravity are summarized below, and are compared to the original lightship weight of the vessel, derived in the only previous inclining done 23 years ago. The current lightship weight calculated includes the aft A-frame and large deck crane on the starboard side of the focsle deck, as well as the Rosette crane and latch. Other research equipment on the starboard side of the upper deck and on the aft focsle deck is considered removable and hence not part of the lightship weight.

Lightship Weight and VCG derived from Inclining Experiment

	Weight [T]	LCG [m]	TCG [m]	VCG [m]
Lightship	1624.60	-2.595	0.048	6.457
Previous Lightship (March 24 th , 1985)	1453.0	-1.53	0.0	6.62
Difference:	171.6	-1.065	0.048	-0.163
Reference:	L - Loadline mark, 375mm aft of Frame 49 - All +ve, T - Long'l CL - stbd +ve, V - Baseline - upwards +ve			

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1 ANALYSIS OF INCLINING DATA

Date: Tuesday, 16 December 2008
Time: 7:00 a.m. – 3:00 p.m.
Location: Nanaimo Shipyard, Nanaimo, British Columbia
Present: John Gilbert, Transport Canada
 Greg Anstey, Public Works
 Mark Cook, STX Canada Marine
 Wylie Thibodeau, STX Canada Marine
Weather: Temperature about -5° C, Clear; Wind about 5 knots
 Wave height about 4 inches
Water Density: 1.021 S.G.

Location of Pendulums: The forward pendulum was hung from underneath scaffolding built up over the watertight hatch at frame 97 on the Focle deck. This pendulum extended down into the Boson's Store on the upper deck. The aft pendulum was hung from the aft mast onto the aft end of the focle deck. Scaffolding was used to hang the pendulum clear from obstructions.

	LENGTH
Pendulum No1 - Fr.97	4016.4 mm (158"1/8" measured)
Pendulum No2 - Aft mast	6194.4 mm (243"7/8" measured)

Drafts - As Inclined:

	Port Side	Starboard Side	Mean Draft
Draft at Fwd Marks	3.71 m	3.71 m	3.71 m
Draft at Loadline	3.945 m	4.071 m	4.008 m
Draft at Aft Marks	4.14 m	4.24 m	4.19 m

Heel angle based on aft draft marks:

Difference in aft draft marks = 0.10 m

Appendix A - John P Tully Inclining Report
 Prepared by STX Canada Marine Inc., Doc. No. 930-079-10 Rev 0, February 2009

Local beam (as measured from lines plan) = 12.864 m

$\tan \theta = 0.10 \text{ m} / 12.864 \text{ m}$

$\theta = 0.445^\circ$ to Starboard

Heel angle based on loadline freeboards:

Difference in loadline freeboards = 0.126 m

Local beam (as measured from lines plan) = 14.0 m

$\tan \theta = 0.126 \text{ m} / 14.0 \text{ m}$

$\theta = 0.516^\circ$ to Starboard

Average Heel angle used for hydrostatics calculation: $\theta = 0.4805^\circ$ to Starboard

Personnel on Board: 9

Inclining Weights:

Weight groups 1 and 2 were placed on the port side, aft of midships, and weight groups 3 and 4 were placed on the starboard side forward of midships. For more information, See Appendix C.

Pendulum Deflections and Heeling Moments: See Appendix C.

Condition of Tanks and Bilges: See Tank Status, Appendix D

Determination of GM:

$GM \text{ As-Inclined (Fluid)} = (w \cdot d) / (\Delta \tan \phi)$

Where $w \cdot d$ = Applied Moment (Tonne-metres)

$\Delta = 1786.9 \text{ Tonnes}$

$\tan \phi = y/l = \text{Mean Deflection/Pendulum Length}$

Using the deflection and heeling moment data from Appendix C, the average heeling moment ($w \cdot d$) and average ratio of deflection to pendulum length ($\tan \phi$) were calculated for both pendulums.

$GM(\text{Pendulum 1}) \text{ As-Inclined (Fluid)} = (37.14) / (1786.9 \times 0.01748) = 1.189 \text{ [m]}$

$GM(\text{Pendulum 2}) \text{ As-Inclined (Fluid)} = (37.14) / (1786.9 \times 0.01748) = 1.184 \text{ [m]}$

$GM(\text{Average of Pendulums 1 and 2}) \text{ As-Inclined (Fluid)} = 1.187 \text{ [m]}$

Appendix A - John P Tully Inclining Report
 Prepared by STX Canada Marine Inc., Doc. No. 930-079-10 Rev 0, February 2009

Calculation of KG(VCG), LCG and TCG:

$KG_{As-Inclined} (Fluid) = KM_1 - GM_{As-Inclined} (Fluid)$

KM_1 (from GHS, using "as-inclined" drafts) = 7.467 [m] ABL

$KG_{As-Inclined} (Fluid) = 7.467 - 1.187 = 6.280$ [m] ABL

$KG_{As-Inclined} (Solid) = KG_{As-Inclined} (Fluid) - \text{Free surface correction (See Tank Status, Appendix D)}$

Free surface correction = Free surface moment / Displacement

$$= 209.72 \text{ [T-m]} / 1786.9 \text{ [T]}$$

$$= 0.1174 \text{ [m]}$$

$KG_{As-Inclined} (Solid) = 6.280 \text{ [m]} - 0.117 \text{ [m]} = 6.163 \text{ [m]}$

$GM_1 \text{ As-Inclined (Solid)} = GM_1 \text{ (Fluid)} + \text{Free Surface Correction}$

$GM_1 \text{ (Solid)} = 1.187 \text{ m} + 0.117 \text{ m} = 1.304 \text{ m}$

$LCG_{As-Inclined} \text{ (From GHS Hydrostatics)} = 2.524 \text{ [m] Aft Amidships (136mm fwd of Fr 44)}$

$TCG_{As-Inclined} \text{ (From GHS Hydrostatics)} = 0.011 \text{ [m] off CL to Starboard}$

01/04/09 15:06:51
USS 11.408

Alex Yards Marine Inc.
CURS JOHN P. TULLY

USK DRAFT draft refers to the line:

0.014 below baseline @ 30.280f and 0.014 below baseline @ 24.625a

As-Inclined Displacement

DRAFTS used to establish Waterline and Deflection

Location	Given	Used	Error
28.127f	3.710	3.710	0.000
3.000	4.000	4.000	0.000
24.625a	4.190	4.190	0.000

Distances in METERS.---Drafts from USK DRAFT---Deflection in LML: 0.040 SAGGING

WEIGHT and DISPLACEMENT STATUS

USK DRAFT draft: 3.657 @ 30.25f, 4.190 @ 24.63a

Trim: Aft 0.453/34.875, Heel: Stbd 0.48 deg.

Deflection in LML: 0.040 SAGGING

Part	Weight (MT)	LCG	TCG	VCG	PSM
WEIGHT	1,786.90	2.579a	0.062a	0.000	
Load	Weight (MT)	LCG	TCG	VCG	
Total Tanks	0.00				0.00
	Displ (MT)	LCG	TCG	VCG	ReCRt
HULL	1,786.90	2.557a	0.042a	2.435	-2.954
Righting Arms:		0.000	0.000a		

Distances in METERS.---Moments in m.-MT.

HYDROSTATIC PROPERTIES

Trim: Aft 0.453/34.875, Heel: Stbd 0.48 deg., VCG = 0.000

Deflection in LML: 0.040 SAGGING

LCF	Displacement	buoyancy-Ctr.	Weight/	Moment/				
draft	Weight (MT)	LCG	VCG	cm	LCF	cm trim	GM	GMT
3.000	1,786.90	2.557a	2.435	6.84	5.613a	29.79	89.43	7.467

Distances in METERS.---Specific Gravity = 1.021.---Moment in m.-MT.

Trim is per 34.88m.

Draft is from USK DRAFT.

01/06/09 19:06:03
GMS 11.40A

Aker Targa Marine Inc.
CDSR JOHN P. TULLEY

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*****
RECALCULATE FOR VCG = 6.163 (M)
*****

WEIGHT and DISPLACEMENT STATUS
USK DRAFT draft: 3.697 @ 30.23t, 4.190 @ 24.63t
Trim: Aft 0.493/54.875, Heel: Stbd 0.48 Deg.
Deflection in INL: 0.040 SAGGING

Part-----Height (XT)-----LCG-----TCG-----VCG
WEIGHT      1,786.90  2.524t  0.011t  6.163
            SpGr-----Displ (MT)-----LCG-----TCG-----VCG
HULL        1.021    1,786.90  2.557t  0.042t  2.439

Righting Arm:      0.000  0.000t
Distances in METERS-----

```

```

HYDROSTATIC PROPERTIES
Trim: Aft 0.493/54.875, Heel: Stbd 0.48 Deg., VCG = 6.163
Deflection in INL: 0.040 SAGGING

ICP Displacement Buoyancy-Ctr. Height/      Moment/
Draft--Weight (MT)---LCG---VCG---cm---LCG---cm trim---GM---GMF
4.035  1,786.90  2.557t  6.135  5.613t  26.78  82.26  1.303
Distances in METERS-----Specific Gravity = 1.021-----Moments in m.-MT.
Trim is per 54.88m.
Draft is from USK DRAFT.

```

Derivation of Lightship Weight and Longitudinal Center of Gravity (LCG):

The lightship weight and centres of gravity have been determined, as presented in Table 1 below.

Table 1 – Weight Summary and Analysis

	Weight [T]	LCG [m]	TCG [m]	VCG [m]
Lightship (Inclining - Dec 16 th , 2008)	1624.60	-2.595	0.048	6.457
Reference: L - Loadline mark, 375mm aft of Frame 49 - Aft +ve, T - Longt CL - stbd +ve, V - Baseline - upwards +ve				

2 CONCLUSIONS

STX Canada Marine has performed an inclining experiment for the Canadian Coast Guard Ship the "John P. Tully" on Tuesday, December 16th, 2008. The derived lightship weight and centres of gravity are summarized below, and are compared to the original lightship weight of the vessel, derived in the only previous inclining done 23 years ago. The current lightship weight calculated includes the aft A-frame and large deck crane on the starboard side of the focsle deck, as well as the Rosette crane and hatch. Other research equipment on the starboard side of the upper deck and on the aft focsle deck is considered removable and hence not part of the lightship weight.

Table 2 - Comparison of Pre-refit Inclining Results with 2003 Inclining

	Weight (t)	LCG (m)	TCG (m)	VCG (m)
Lightship (Inclining - Dec 16 th , 2008)	1524.60	-2.555	0.048	6.457
Previous Lightship (March 24 th , 1985)	1453.0	-1.53	0.0	6.62
Difference:	171.6	-1.065	0.048	-0.163
Reference:	L - Loadline mark, 375mm aft of Frame 49 - Aft +ve, T - Long) CL - stbd +ve, V - Baseline - upwards +ve			

Appendix B - Inclining Experiment Draft & Freeboard Measurements

Measurement of Draft Marks:

Draft Mark Location	Port	Starboard	Heel
Forward Drafts - At Stem	3.71 m	3.71 m	3.71m
Aft Draft Marks	4.14 m	4.24 m	4.19m

Freeboard	Port	Starboard	Heel
At Loadline	83 cm *	41 cm **	-
Freeboard to deck line (mm)	3369	3243	
Freeboard to deck edge (mm)	3669	3543	
Height of upper deck above baseline (mm)	7600	7600	
Keel plate thickness (mm)	14	14	
Draft to USK (m)	3.945	4.071	
Beam at loadline (m)			14
Beam at aft draft marks (m)			12.884
Heel based on loadline			0.516
Heel based on aft draft marks			0.445
Average heel			0.4805

Total Hog / Sag as measured : 3.4 cm Sagging
 SG of water as measured 1.021

* - Port freeboard is measured from the bottom of the tropical load line mark to the water surface

** - Starboard freeboard is measured from the bottom of the loadline mark to the water surface

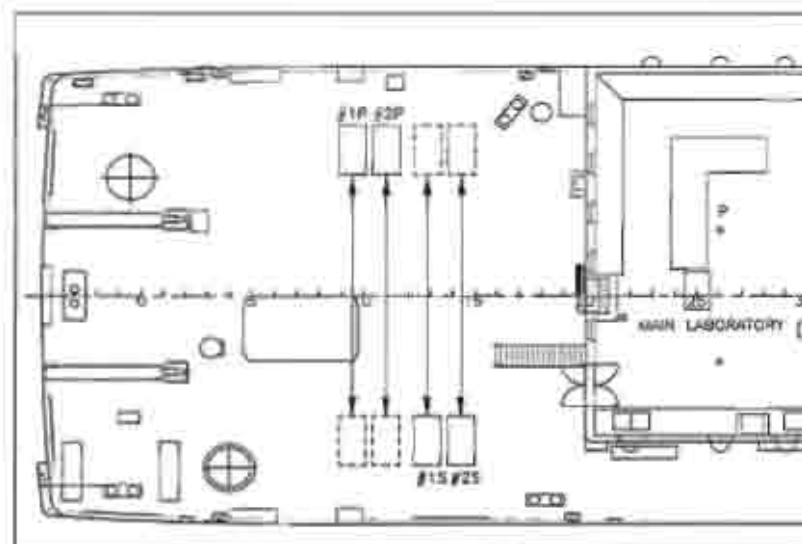
Appendix C - Inclining Experiment General Data

Inclining Weights

Item No.	Weight (kg)	Weight (lb)	Weight (kg)
1	Concrete block	4550	1074
2	Concrete block	4200	1906
3	Concrete block	4550	2064
4	Concrete block	4400	1996
5	Concrete block	4250	1928
6	Concrete block	4400	1996
7	Concrete block	4300	1851
8	Concrete block	4350	1974

Weight Group 1 - Port Side			Weight Group 2 - Port Side			Weight Group 3 - Starboard			Weight Group 4 - Starboard		
Item No.	Weight (kg)	Weight (lb)	Item No.	Weight (kg)	Weight (lb)	Item No.	Weight (kg)	Weight (lb)	Item No.	Weight (kg)	Weight (lb)
1	1225	1.828	6	1996	1.996	3	2064	2.064	1	1074	1.074
8	1974	1.974	7	1851	1.851	4	1996	1.996	2	1906	1.906
Group Totals:			3947			4065			3579		

Inclining Weight Arrangement



Pendulum Deflections and Heeling Moments

Pendulum No. 1 - Forward pendulum, Hatch

Lengths of Pendulum No. 1: 20.00 (m)

Angle	Time	Deflection	Heeling Moment	GM	GM ₁	GM ₂	GM ₃	GM ₄
1	1	3.902	3.902	0.710	37.89	P 10.5	73.5	0.0163
2	2	3.947	3.947	0.700	38.29	P 10.5	72.0	0.0179
3	3	3.947	3.947	0.700	38.29	S 10.5	70.5	0.0179
4	4	3.902	3.902	0.710	37.89	S 10.5	73.5	0.0163
5	5	4.061	4.061	0.120	37.08	S 10.5	69.5	0.0173
6	6	3.878	3.878	0.100	38.30	S 10.5	67.5	0.0168
7	7	3.878	3.878	0.100	38.30	P 10.5	65.5	0.0163
8	8	4.061	4.061	0.120	37.08	P 10.5	68.5	0.0173
Total:					297.10		Total:	0.1358
Mean Moment = (Σ wd / 8):					37.14	Mean Tan (θ) = (Σ Tan(θ) / 8):		0.017475

$$GM_1 (As-inclined) = \frac{w \times d}{D \times \tan(\theta)} = \frac{37.14}{0.09 \times 0.01748} = 1.168 \text{ (m)}$$

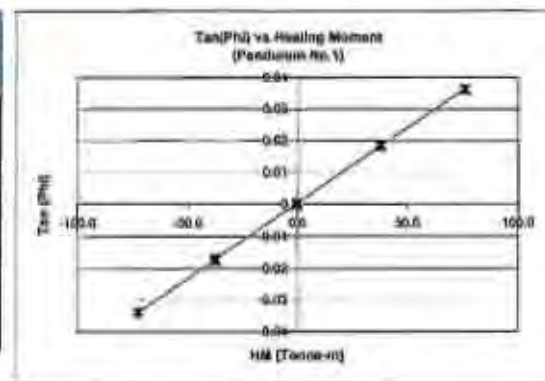
Pendulum No. 2 - Aft Mast

Lengths of Pendulum No. 2: 20.00 (m)

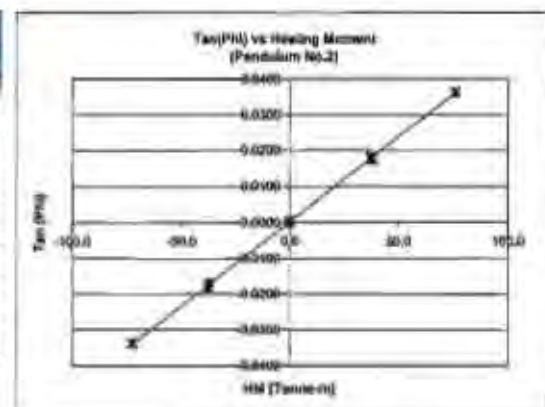
Length of Procedure (sec.)		Time		Deflection		Heeling Moment		GM	
Angle	Time	Deflection	Heeling Moment	GM	GM ₁	GM ₂	GM ₃	GM ₄	GM ₅
1	1	3.902	3.902	0.710	37.89	P 10.5	108.5	0.0173	
2	2	3.947	3.947	0.700	38.29	P 10.5	117.0	0.0169	
3	3	3.947	3.947	0.700	38.29	S 10.5	113.0	0.0169	
4	4	3.902	3.902	0.710	37.89	S 10.5	109.5	0.0173	
5	5	4.061	4.061	0.120	37.08	S 10.5	110.0	0.0167	
6	6	3.878	3.878	0.100	38.30	S 10.5	96.0	0.0168	
7	7	3.878	3.878	0.100	38.30	P 10.5	104.0	0.0168	
8	8	4.061	4.061	0.120	37.08	P 10.5	106.0	0.0171	
Total:				297.10			Total:		0.1408
Mean Moment = (Σ wd / 8):				37.14	Mean Tan (θ) = (Σ Tan(θ) / 8):		0.017536		

$$GM_1 (As-inclined) = \frac{w \times d}{D \times \tan(\theta)} = \frac{37.14}{0.09 \times 0.01758} = 1.164 \text{ (m)}$$

Angle	Time	Deflection	Heeling Moment	GM	GM ₁	GM ₂	GM ₃	GM ₄	
1	1	3.902	3.902	0.710	37.89	P 10.5	73.5	0.0163	
2	2	3.947	3.947	0.700	38.29	P 10.5	72.0	0.0179	
3	3	3.947	3.947	0.700	38.29	S 10.5	70.5	0.0179	
4	4	3.902	3.902	0.710	37.89	S 10.5	73.5	0.0163	
5	5	4.061	4.061	0.120	37.08	S 10.5	69.5	0.0173	
6	6	3.878	3.878	0.100	38.30	S 10.5	67.5	0.0168	
7	7	3.878	3.878	0.100	38.30	P 10.5	65.5	0.0163	
8	8	4.061	4.061	0.120	37.08	P 10.5	68.5	0.0173	
Total:					297.10			0.1358	
Mean Moment = (Σ wd / 8):					37.14	Mean Tan (θ) = (Σ Tan(θ) / 8):			0.017475



		</	



Appendix D - Inclining Experiment Weight Summary

Inclining Weight Summary and Analysis

	Weight (Tons)	LCG (m)	TCG (m)	VCG (m)	Trimming
As-Inclined Displacement	1768.90	-2.524	0.011	8.240	
Pier surface correction				0.1174	
As-Inclined Displacement (Corrected for P.S.M)	1768.90	-2.524	0.011	8.357	
Weights Off	-43.22	-16.722	-0.144	0.602	
Weights On	14.40	-10.256	4.488	10.515	
Total Weights Off	-133.48	2.227	0.060	1.944	
Liquidship	1624.60	0.000	0.000	0.000	
Note: LCG is calculated from midships, forward positive and aft negative.					
TCG is referenced from longitudinal centerline, positive to starboard.					
VCG is referenced from baseline, positive upwards.					

Weights OFF

		LCG	TPC	TPC	TPC
		LCG	TPC	TPC	TPC
Weights On					
Header Top					
Ice	1	0.074	6.448	0.000	18.450
Bridge Deck					
Scallops	1	0.050	-18.314	0.000	12.900
Strip Bow	1	0.200	21.000	0.000	13.400
10 man life raft	1	3.088	-11.500	1.010	14.000
25 man life raft	1	0.178	-11.500	1.500	14.000
8" Pipe and elbows	1	0.290	-14.800	1.576	13.400
Port Covering/Protection	1	0.020	7.875	-4.190	13.400
Starboard Covering/Protection	1	0.020	7.875	-4.190	13.400
Ice	1	0.538	0.000	0.000	12.900
Forward Deck					
2 x 25 man life raft	1	0.302	-20.500	5.059	11.500
Shipyard mooring line	1	3.150	50.375	0.000	10.300
Gas	1	0.015	28.000	1.520	10.800
Fun	1	0.010	26.000	2.200	10.800
Welding Lines	1	0.020	27.800	-1.100	10.800
Shipyard mooring line	1	0.160	26.000	-4.530	10.300
Deck Covering/Protection	1	0.027	13.387	0.000	10.300
Fire suppression room damage	1	0.025	-9.000	0.000	10.800
Shipyard Equipment - port side	1	0.200	-8.000	-4.000	10.800
Shipyard equipment - starboard side	1	0.200	5.000	6.000	10.800
Emergency Gen. Room damage	1	0.030	-13.375	0.000	10.800
Ice	1	0.457	-4.375	0.000	10.300
Ice	1	0.179	30.375	0.000	10.300
Plasma Latch to ice machine	1	0.750	-2.680	4.400	10.300

		LCG	TPC	TPC	TPC
		LCG	TPC	TPC	TPC
Weights Off Continued					
Upper Deck					
Deck Covering/Protection	1	0.540	9.123	-1.000	7.600
Officers Lounge Covering/Protection	1	0.080	17.697	3.580	7.600
Officers Mess Covering/Protection	1	0.060	6.016	3.580	7.600
Shipyard Equipment and Tools	1	0.600	-13.375	-2.000	8.600
Ice	1	0.539	-24.000	0.000	7.600
Forward Inclining Equipment (barricade)	1	0.115	30.375	0.000	8.000
Aft Inclining Equipment (barricade)	1	0.115	-19.625	0.000	8.000
Chain Box	1	0.150	-30.250	5.750	8.000
Shipyard mooring line	1	0.190	-31.149	-6.000	7.600
Starboard Crane - Main Store (relocated to starboard post)	1	7.243	-28.382	1.317	14.020
Starboard Crane - Aft Boom (relocated to starboard post)	1	2.598	-28.334	-5.900	13.940
Starboard Crane - Aft Cylinders (relocated to starboard post)	1	1.308	-28.382	-1.300	15.140
15 personnel account during inclining	9	0.678	0.000	0.000	8.600
Forward Store	1	3.000	30.000	0.000	0.500
Main Deck					
Cold Store	1	0.100	17.625	0.000	5.400
Cleaning Locker	1	0.100	9.750	3.900	5.400
Crews Lounge Covering/Protection	1	0.060	8.062	3.200	5.400
Crews Mess Covering/Protection	1	0.060	8.060	-4.000	5.400
10 sheets of 3/4 plywood	1	0.250	-25.250	1.970	6.000
Deck Covering/Protection	1	0.811	0.000	0.000	4.900
Aft Store	1	5.000	-22.350	-1.330	5.350
Infinite Weights (55 Deck, 107)					
Inclining Weights - Group 1 - Port Aft	1	3.902	-24.288		1.043
Inclining Weights - Group 2 - Port Forward	1	3.947	-23.267	-4.600	1.043
Inclining Weights - Group 3 - Starboard Aft	1	4.061	-21.539	5.000	1.043
Inclining Weights - Group 4 - Starboard Forward	1	3.879	-20.334	-4.500	1.043
Total Weights to Come Off:		43.226	-16.722	-0.144	0.633

Note: LCG Reference from midships (FL 50) positive forward. TPC reference from center line, positive starboard. VCG reference from base line, positive up.

Weights On

Description	No.	Weight (Tons)	LCG (m)	TCG (m)	VOG (m)
Weights On					
Below Deck					
Crane Bow	1	0.350	-18.314	0.000	13.400
3 25 man life rafts	1	0.535	4.600	6.985	14.900
Upper Deck					
10 life raft	1	0.076	-7.720	4.207	11.600
Roof deck to be installed	1	0.750	0.000	0.000	10.380
Below Deck					
Main lab counter tops	1	0.238	-13.60	4.00	8.30
Main lab cabinets	1	0.118	-13.50	4.00	8.30
Accommodation life containers	1	0.055	4.65	5.50	8.30
Cool room panels	1	0.295	5.00	3.00	11.50
Main lab sink panels	1	0.385	-13.35	4.20	9.00
Pump head	1	0.055	-12.70	4.00	9.00
Main lab deckhead panels	1	0.118	-13.50	2.00	12.80
Cool room shelving	1	0.158	5.00	3.00	9.30
misc. insulation	1	0.138	-14.40	3.50	12.80
Crane base	1	0.150	18.10	9.00	8.00
Starb Alt Crane - Main Boom (relocated to stowed pos)	1	2.267	-22.40	5.29	11.15
Starb Alt Crane - Jib Boom (relocated to stowed pos)	1	2.536	-20.83	5.28	9.90
Solid Alt Crane - Jib Cylinder (relocated to stowed pos)	1	1.338	-20.50	5.28	10.80
Total Weights to Go On:		14.48	-15.295	4.408	16.819
Notes: LCG Reference from main keel positive forward, TCG reference from centre line, positive starboard, VOG reference from base line, positive up.					

Tank Status

Tank Name	Capacity (Tons)	Weight (Tons)	LCG (m)	TCG (m)	VOG (m)	PSH (Tons)	Comments
Tank Weights to be Deducted from Lightship							
Pump Tank	58 to 68	0.00					dry
Fuel # 3 Port *	58 to 68	0.00					0.05m sounding
Fuel # 3 Starb	58 to 68	0.00					0.05m sounding
Fuel # 4 Port	52 to 58	37.74	4.09	-4.06	2.36	25.84	5.50m sounding
Fuel # 4 Starb	52 to 58	37.58	4.09	-4.06	2.27	25.88	5.50m sounding
Fuel # 5 Port	43 to 57	26.55	-0.48	-2.82	1.05	16.78	11.60m sounding
Fuel # 5 Starb	43 to 57	27.23	-0.51	-2.89	0.98	14.00	11.60m sounding
Fuel # 6 Port	30 to 43	0.01	-5.80	-0.05	0.04	0.00	0.0m sounding
Fuel # 6 Starb	30 to 43	0.01	-5.80	-0.05	0.04	0.00	0.0m sounding
Fuel # 8 Port	9 to 17	0.00					0.0m sounding
Fuel # 8 Starb	9 to 17	0.00					0.0m sounding
Fuel # 9 Port	5 to 9	0.00					0.0m sounding
Fuel # 9 Starb	5 to 9	0.00	-28.90	0.00	2.01	0.18	0.0m sounding
Day Tank	18.5 to 21.5	6.54	-18.00	0.00	5.62	3.81	2.30m sounding
Sludge	28 to 32	0.00	-11.00	1.29	0.40	0.80	0.0m sounding
Main Eng. Lubr Oil Storage	17 to 20	0.00					
Aux. Lubr Oil Storage	17 to 20	0.00					
Stem Tube Oil Storage		0.00					
Generator Oil Storage		0.00					
Hydraulic Oil Storage		0.00					
No. 1 FW Port	73 to 80	0.30	17.40	-0.78	0.07	0.12	1m sounding
No. 1 FW Starb	73 to 80	0.00					dry
No. 2 WB Port	66 to 73	0.00					dry
No. 2 WB Starb	66 to 73	0.00					dry
No. 3 WB Port	30 to 43	0.00					dry
No. 3 WB Starb	17 to 30	0.00					dry
No. 4 WB Port	17 to 30	0.00					dry
No. 4 WB Starb	5 to 14	0.00					dry
No. 10 WB Port	5 to 14	0.00					dry
Bow Thruster Cyl Sdgs		0.38	20.74	0.00	0.04	1.00	
Total tank weights to come off:		123.48	0.00	0.00	0.00	209.72	

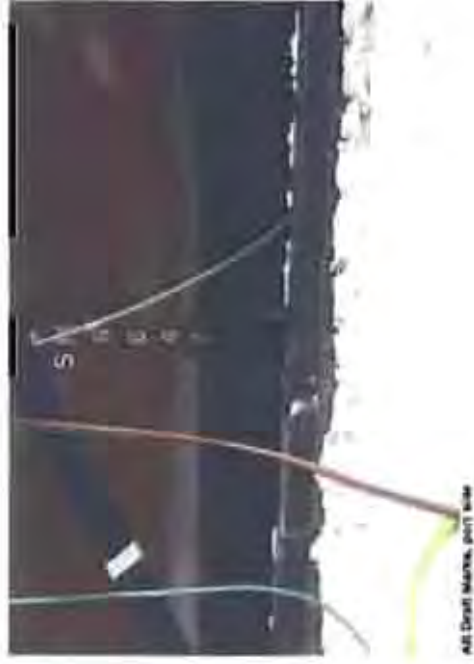
* Where soundings read zero either empty or the sounding is below the sounding line, tank volumes have been determined from the OHS record.

Appendix E - Draft & Freeboard Photos

Draft and Freeboard Photos



Draft and Freeboard Photos



Appendix F - Tank Sounding Tables

No. 6 Port & Starboard Fuel Oil

[illegible]

No. 6 Centre Water Ballast

No. 7 Port & Starboard Water Ballast

22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100												
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47																																																					

No. 0 Port & Starboard Fuel Oil.[illegible]

Shedde Tank

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 104

No. 10 Port & Starboard Water Outlets

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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No. 9 Starboard (Setting) Fuel Oil[illegible]No. 3 Port (Settling) Fuel Oil[illegible]

Day Tank (Port)

2.10	11.2	1.00	5.0
2.07	11.1	0.99	4.9
2.05	11.0	0.98	4.8
2.03	10.8	0.97	4.7
2.00	10.7	0.96	4.6
1.97	10.6	0.95	4.5
1.95	10.4	0.93	4.4
1.92	10.2	0.92	4.3
1.90	10.1	0.91	4.2
1.87	10.0	0.90	4.1
1.85	9.8	0.89	4.0
1.83	9.6	0.87	3.9
1.80	9.4	0.86	3.8
1.77	9.2	0.84	3.7
1.75	9.0	0.83	3.6
1.72	8.8	0.81	3.5
1.70	8.6	0.80	3.4
1.67	8.4	0.78	3.3
1.65	8.2	0.77	3.2
1.62	8.0	0.75	3.1
1.60	7.8	0.74	3.0
1.57	7.6	0.72	2.9
1.55	7.4	0.71	2.8
1.52	7.2	0.69	2.7
1.50	7.0	0.68	2.6
1.47	6.8	0.66	2.5
1.45	6.6	0.65	2.4
1.42	6.4	0.63	2.3
1.40	6.2	0.62	2.2
1.37	6.0	0.60	2.1
1.35	5.8	0.59	2.0
1.32	5.6	0.57	1.9
1.30	5.4	0.56	1.8
1.27	5.2	0.54	1.7
1.25	5.0	0.53	1.6
1.22	4.8	0.51	1.5
1.20	4.6	0.50	1.4
1.17	4.4	0.48	1.3
1.15	4.2	0.47	1.2
1.12	4.0	0.45	1.1
1.10	3.8	0.44	1.0
1.07	3.6	0.42	0.9
1.05	3.4	0.41	0.8
1.02	3.2	0.39	0.7

Humid Tank

2.68	183.7	1.37	79.1
2.62	183.2	1.35	78.6
2.60	180.7	1.33	78.2
2.57	180.2	1.30	77.7
2.55	177.7	1.27	77.3
2.52	175.1	1.24	76.9
2.50	172.6	1.22	76.4
2.47	170.1	1.19	76.0
2.45	167.6	1.17	75.6
2.42	165.1	1.14	75.2
2.40	162.6	1.12	74.8
2.37	160.1	1.09	74.4
2.35	157.6	1.07	74.0
2.32	155.1	1.04	73.6
2.30	152.6	1.02	73.2
2.27	150.1	1.00	72.8
2.25	147.6	0.97	72.4
2.22	145.1	0.95	72.0
2.20	142.6	0.93	71.6
2.17	140.1	0.90	71.2
2.15	137.6	0.88	70.8
2.12	135.1	0.86	70.4
2.10	132.6	0.84	70.0
2.07	130.1	0.82	69.6
2.05	127.6	0.80	69.2
2.02	125.1	0.77	68.8
2.00	122.6	0.75	68.4
1.97	120.1	0.73	68.0
1.95	117.6	0.71	67.6
1.92	115.1	0.69	67.2
1.90	112.6	0.67	66.8
1.87	110.1	0.65	66.4
1.85	107.6	0.63	66.0
1.82	105.1	0.61	65.6
1.80	102.6	0.59	65.2
1.77	100.1	0.57	64.8
1.75	97.6	0.55	64.4
1.72	95.1	0.53	64.0
1.70	92.6	0.51	63.6
1.67	90.1	0.49	63.2
1.65	87.6	0.47	62.8
1.62	85.1	0.45	62.4
1.60	82.6	0.43	62.0
1.57	80.1	0.41	61.6
1.55	77.6	0.39	61.2
1.52	75.1	0.37	60.8
1.50	72.6	0.35	60.4
1.47	70.1	0.33	60.0
1.45	67.6	0.31	59.6
1.42	65.1	0.29	59.2
1.40	62.6	0.27	58.8
1.37	60.1	0.25	58.4
1.35	57.6	0.23	58.0
1.32	55.1	0.21	57.6
1.30	52.6	0.19	57.2
1.27	50.1	0.17	56.8
1.25	47.6	0.15	56.4
1.22	45.1	0.13	56.0
1.20	42.6	0.11	55.6
1.17	40.1	0.09	55.2
1.15	37.6	0.07	54.8
1.12	35.1	0.05	54.4
1.10	32.6	0.03	54.0

Main Engine Lube Oil Storage

160	10000
160	10000
155	9750
150	9500
145	9250
140	9000
135	8750
130	8500
125	8250
120	8000
115	7750
110	7500
105	7250
100	7000
95	6750
90	6500
85	6250
80	6000
75	5750
70	5500
65	5250
60	5000
55	4750
50	4500
45	4250
40	4000
35	3750
30	3500
25	3250
20	3000
15	2750
10	2500
5	2250

Sewage

165	10000
160	9750
155	9500
150	9250
145	9000
140	8750
135	8500
130	8250
125	8000
120	7750
115	7500
110	7250
105	7000
100	6750
95	6500
90	6250
85	6000
80	5750
75	5500
70	5250
65	5000
60	4750
55	4500
50	4250
45	4000
40	3750
35	3500
30	3250
25	3000
20	2750
15	2500
10	2250
5	2000

Port CPP Oil Tank

1.25	1.4
1.22	1.4
1.20	1.4
1.17	1.4
1.15	1.4
1.12	1.4
1.10	1.4
1.07	1.4
1.05	1.4
1.02	1.4
1.00	1.4
0.97	1.4
0.95	1.4
0.92	1.4
0.90	1.4
0.87	1.4
0.85	1.4
0.82	1.4
0.80	1.4
0.77	1.4
0.75	1.4
0.72	1.4
0.70	1.4
0.67	1.4
0.65	1.4
0.62	1.4
0.60	1.4
0.57	1.4
0.55	1.4
0.52	1.4
0.50	1.4
0.47	1.4
0.45	1.4
0.42	1.4
0.40	1.4
0.37	1.4
0.35	1.4
0.32	1.4
0.30	1.4
0.27	1.4
0.25	1.4
0.22	1.4
0.20	1.4
0.17	1.4
0.15	1.4
0.12	1.4
0.10	1.4
0.07	1.4
0.05	1.4
0.02	1.4

Stern Tube Oil Storage Tank

STANDARD DIM	VOLUME Litres	STORAGE DIM	VOLUME Litres	STORAGE DIM	VOLUME Litres	STORAGE DIM	VOLUME Litres	STORAGE DIM	VOLUME Litres
122	289	30	213	30	137	34	37		
128	344	36	268	36	177	42	53		
138	426	42	330	42	220	50	62		
148	528	48	392	48	263	58	72		
158	640	54	454	54	306	66	84		
168	762	60	516	60	349	74	96		
178	884	66	578	66	392	82	108		
188	1006	72	640	72	435	90	120		
198	1128	78	702	78	478	98	132		
208	1250	84	764	84	521	106	144		
218	1372	90	826	90	564	114	156		
228	1494	96	888	96	607	122	168		
238	1616	102	950	102	650	130	180		
248	1738	108	1012	108	693	138	192		
258	1860	114	1074	114	736	146	204		
268	1982	120	1136	120	779	154	216		
278	2104	126	1198	126	822	162	228		
288	2226	132	1260	132	865	170	240		
298	2348	138	1322	138	908	178	252		
308	2470	144	1384	144	951	186	264		
318	2592	150	1446	150	994	194	276		
328	2714	156	1508	156	1037	202	288		
338	2836	162	1570	162	1080	210	300		
348	2958	168	1632	168	1123	218	312		
358	3080	174	1694	174	1166	226	324		
368	3202	180	1756	180	1209	234	336		
378	3324	186	1818	186	1252	242	348		
388	3446	192	1880	192	1295	250	360		
398	3568	198	1942	198	1338	258	372		
408	3690	204	2004	204	1381	266	384		
418	3812	210	2066	210	1424	274	396		
428	3934	216	2128	216	1467	282	408		
438	4056	222	2190	222	1510	290	420		
448	4178	228	2252	228	1553	298	432		
458	4300	234	2314	234	1596	306	444		
468	4422	240	2376	240	1639	314	456		
478	4544	246	2438	246	1682	322	468		
488	4666	252	2500	252	1725	330	480		
498	4788	258	2562	258	1768	338	492		
508	4910	264	2624	264	1811	346	504		
518	5032	270	2686	270	1854	354	516		
528	5154	276	2748	276	1897	362	528		
538	5276	282	2810	282	1940	370	540		
548	5398	288	2872	288	1983	378	552		
558	5520	294	2934	294	2026	386	564		
568	5642	300	2996	300	2069	394	576		
578	5764	306	3058	306	2112	402	588		
588	5886	312	3120	312	2155	410	600		
598	6008	318	3182	318	2198	418	612		
608	6130	324	3244	324	2241	426	624		
618	6252	330	3306	330	2284	434	636		
628	6374	336	3368	336	2327	442	648		
638	6496	342	3430	342	2370	450	660		
648	6618	348	3492	348	2413	458	672		
658	6740	354	3554	354	2456	466	684		
668	6862	360	3616	360	2499	474	696		
678	6984	366	3678	366	2542	482	708		
688	7106	372	3740	372	2585	490	720		
698	7228	378	3802	378	2628	498	732		
708	7350	384	3864	384	2671	506	744		
718	7472	390	3926	390	2714	514	756		
728	7594	396	3988	396	2757	522	768		
738	7716	402	4050	402	2800	530	780		
748	7838	408	4112	408	2843	538	792		
758	7960	414	4174	414	2886	546	804		
768	8082	420	4236	420	2929	554	816		
778	8204	426	4298	426	2972	562	828		
788	8326	432	4360	432	3015	570	840		
798	8448	438	4422	438	3058	578	852		
808	8570	444	4484	444	3101	586	864		
818	8692	450	4546	450	3144	594	876		
828	8814	456	4608	456	3187	602	888		
838	8936	462	4670	462	3230	610	900		
848	9058	468	4732	468	3273	618	912		
858	9180	474	4794	474	3316	626	924		
868	9302	480	4856	480	3359	634	936		
878	9424	486	4918	486	3402	642	948		
888	9546	492	4980	492	3445	650	960		
898	9668	498	5042	498	3488	658	972		
908	9790	504	5104	504	3531	666	984		
918	9912	510	5166	510	3574	674	996		
928	10034	516	5228	516	3617	682	1008		
938	10156	522	5290	522	3660	690	1020		
948	10278	528	5352	528	3703	698	1032		
958	10400	534	5414	534	3746	706	1044		
968	10522	540	5476	540	3789	714	1056		
978	10644	546	5538	546	3832	722	1068		
988	10766	552	5600	552	3875	730	1080		
998	10888	558	5662	558	3918	738	1092		
1008	11010	564	5724	564	3961	746	1104		
1018	11132	570	5786	570	4004	754	1116		
1028	11254	576	5848	576	4047	762	1128		
1038	11376	582	5910	582	4090	770	1140		
1048	11498	588	5972	588	4133	778	1152		
1058	11620	594	6034	594	4176	786	1164		
1068	11742	600	6096	600	4219	794	1176		
1078	11864	606	6158	606	4262	802	1188		
1088	11986	612	6220	612	4305	810	1200		
1098	12108	618	6282	618	4348	818	1212		
1108	12230	624	6344	624	4391	826	1224		
1118	12352	630	6406	630	4434	834	1236		
1128	12474	636	6468	636	4477	842	1248		
1138	12596	642	6530	642	4520	850	1260		
1148	12718	648	6592	648	4563	858	1272		
1158	12840	654	6654	654	4606	866	1284		
1168	12962	660	6716	660	4649	874	1296		
1178	13084	666	6778	666	4692	882	1308		
1188	13206	672	6840	672	4735	890	1320		
1198	13328	678	6902	678	4778	898	1332		
1208	13450	684	6964	684	4821	906	1344		
1218	13572	690	7026	690	4864	914	1356		
1228	13694	696	7088	696	4907	922	1368		
1238	13816	702	7150	702	4950	930	1380		
1248	13938	708	7212	708	4993	938	1392		
1258	14060	714	7274	714	5036	946	1404		
1268	14182	720	7336	720	5079	954	1416		
1278	14304	726	7398	726	5122	962	1428		
1288	14426	732	7460	732	5165	970	1440		
1298	14548	738	7522	738	5208	978	1452		
1308	14670	744	7584	744	5251	986	1464		
1318	14792	750	7646	750	5294	994	1476		
1328	14914	756	7708	756	5337	1002	1488		
1338	15036	762	7770	762	5380	1010	1500		
1348	15158	768	7832	768	5423	1018	1512		
1358	15280	774	7894	774	5466	1026	1524		
1368	15402	780	7956	780	5509	1034	1536		
1378	15524	786	8018	786	5552	1042	1548		
1388	15646	792	8080	792	5595	1050	1560		
1398	15768	798	8142	798	5638	1058	1572		
1408	15890	804	8204	804	5681	1066	1584		
1418	16012	810	8266	810	5724	1074	1596		
1428	16134	816	8328	816	5767	1082	1608		
1438	16256	822	8390	822	5810	1090	1620		
1448	16378	828	8452	828	5853	1098	1632		
1458	16500	834	8514	834	5896	1106	1644		
1468	16622	840	8576	840	5939	1114	1656		
1478	16744	846	8638	846	5982	1122	1668		
1488	16866	852	8700	852	6025	1130	1680		
1498	16988	858	8762	858	6068	1138	1692		
1508	17110	864	8824	864	6111	1146	1704		
1518	17232	870	8886	870	6154	1154	1716		
1528	17354	876	8948	876	6197	1162	1728		
1538	17476	882	9010	882	6240	1170	1740		
1548	17598	888	9072	888	6283	1178	1752		
1558	17720	894	9134	894	6326	1186	1764		
1568	17842	900	9196	900	6369	1194	1776		
1578	17964	906	9258	906	6412	1202	1788		
1588	18086	912	9320	912	6455	1210	1800		
1598	18208	918	9382	918	6498	1218	1812		
1608	18330	924	9444	924	6541	1226	1824		
1618									

Appendix G - Hullform Coefficients and Sectional Area Curves

Hullform Coefficients

CURVES OF FORM

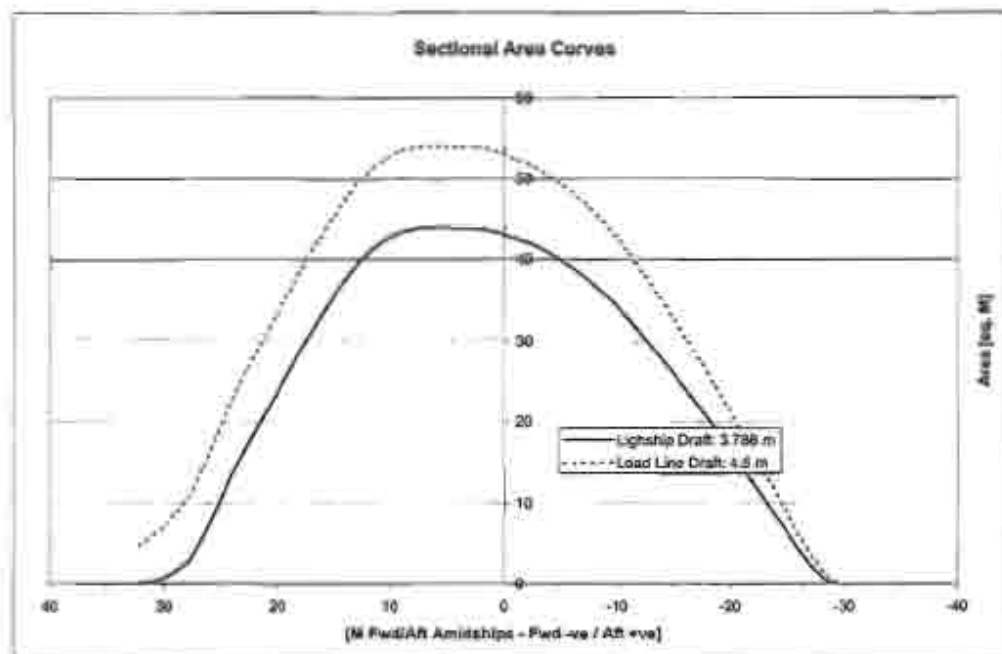
HULL C Component of Part HULL

Trim: zero Heel: zero

Ref Pt	Volume	Block	Displ/	WaterPl	MaxSect	PrismaticCoef	
Depth----	(Cu m.)	Coef----	Length----	Coef----	Coef----	Long----	Vert--
4.500	2087	0.533	251.2	9.798	0.852	0.625	0.667
3.788	1627	0.492	199.0	8.747	0.824	0.597	0.659

Distances in METERS, Length is true waterline

HULL Reference Point: Long. = 0.000 Trans. = 0.000 Vert. = 0.000



Appendix H - Summary of Consolidated Weights

John P. Tully Consolidated Weights

Port = - 've

Starboard = + 've

Fore = - 've

Aft = + 've

	Weight		LCG		LCG	
	(Tons)	(Tons)	(m)	(m)	(m)	(m)
Upper Deck						
M/T Receiver Mooring	4900	2223	19.60	-3.71	8.10	
Bongo Winch	7300	3311	19.60	-1.81	8.10	
CTD Winch	12000	5443	19.60	0.00	8.10	
CTD/BIONESS Net	11500	5216	20.23	3.25	8.10	
Main Lab Equipment	2090	907	13.97	-2.00	8.60	
Total:	37706	17100	19.49	0.05	8.13	
Upper Deck Container	9600	4354	26.10	-4.55	8.60	
Foosle Deck						
CTD Winch	12000	5443	9.51	-4.09	11.00	
Hydro Winch	7800	3538	6.50	-5.55	11.00	
Total:	19800	8981	8.32	-4.67	11.00	
Foosle Deck Container	8500	3836	14.35	-5.48	11.30	
ROPOS on Upper Deck (Departure)						
ROV	6990	3170	25.25	0.00	8.30	
ROPOS LARS on Upper Deck	20000	9072	24.48	2.45	9.80	
LARS Pedestal	6681	3030	21.50	-4.66	7.85	
ROPOS Winch on Upper Deck	40131	18200	21.50	-0.50	9.50	
ROPOS Winch Foundation	3881	1760	21.50	-0.50	7.84	
ROPOS Power Pack	6615	3000	21.80	-3.92	8.30	
CABLE	3991	1810	26.25	0.00	7.80	
Total:	88292	40042	22.71	0.36	9.11	
ROPOS on Upper Deck (Operating)						
ROV (hanging from crane)		3170	21.50	-13.46	7.50	
ROPOS LARS on Upper Deck	20000	9072	21.50	8.37	9.80	
LARS Pedestal	6681	3030	21.50	-4.66	7.85	
ROPOS Winch on Upper Deck	40131	18200	21.50	-0.50	9.50	
ROPOS Winch Foundation	3881	1760	21.50	-0.50	7.84	
ROPOS Power Pack	6615	3000	21.60	-3.92	8.30	
CABLE (hanging from crane)	3991	1810	21.50	-13.46	7.50	
Total:	88292	40042	21.52	3.38	9.03	

	Weight		LCG		LCG	
	(Tons)	(Tons)	(m)	(m)	(m)	(m)
ROPOS on Foosle Deck (Departure)						
ROV (Upper Deck)	6990	3170	22.60	5.00	8.30	
ROPOS LARS on Foosle Deck	20000	9072	19.40	-4.95	12.50	
LARS Pedestal	6681	3030	17.44	-4.95	10.45	
ROPOS Winch on Foosle Deck	40131	18200	12.77	-4.95	12.20	
ROPOS Winch Foundation	3881	1760	12.77	-4.95	10.44	
ROPOS Power Pack	6615	3000	8.86	-4.34	11.00	
CABLE	3991	1810	23.40	5.00	7.80	
Total:	88292	40042	15.60	-4.91	11.46	
ROPOS on Foosle Deck (Operating)						
ROV (hanging from crane)	6990	3170	17.44	-13.76	10.20	
ROPOS LARS on Foosle Deck	20000	9072	17.44	-8.66	12.50	
LARS Pedestal	6681	3030	17.44	-4.95	10.45	
ROPOS Winch on Foosle Deck	40131	18200	12.77	-4.95	12.20	
ROPOS Winch Foundation	3881	1760	12.77	-4.95	10.44	
ROPOS Power Pack	6615	3000	8.86	-4.34	11.00	
CABLE (hanging from crane)	3991	1810	17.44	-13.76	10.20	
Total:	88292	40042	14.47	-6.84	11.72	
Rosette on Foosle Deck (Operating)						
Sale Working Load	7718	3500	4.63	-11.14	11.80	
Rosette Crane Off	-10750	-4876	3.05	-4.70	13.00	
Rosette Crane On	10750	4876	-4.63	-7.08	13.00	
Total:	7718	3500	6.77	-14.46	11.80	
Rosette on Foosle Deck (Departure)						
Rosette in Stowed Position	1986	900	0.70	-5.60	9.00	