

STABILITY INFORMATION MANUAL

Including longitudinal strength

DIAMOND 53 – HANDYMAX BULK CARRIER

M/S SPAR SCORPIO

Chengxi Shipyard
Newbuilding No. 4210

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1.1 OWNERS PREAMBLE / GENERAL INTRODUCTION

The **Booklet** is prepared for the ship's Master for obtaining information and suitable instructions as guidance to the stability of the ship under varying conditions of service.

Relevant requirements in **MSC Resolution A749(18)** of IMO, and the relevant Class requirements of DNV are to be referred to in the usage of this manual.

This **Booklet** comprises following contents. General information and instruction are given for calculation and evaluation of stability of the ship accompanied by a number of loading conditions. Data, such as those of free surface moment of tanks (initial and large inclination), wind capsizing lever, immersing and flooding angles, limit height of center of gravity, etc., and those of the maximum still water bending moments.

Since determined lightweight and COG of this vessel differ less than 0.5% of sister vessel, SPAR LYRA, therefore lightweight and COG used are according to inclining test of SPAR LYRA dated 2004 .11.22, as can be found in the report of lightweight test report, the calculations in this booklet use the same lightship data of M/S "SPAR LYRA".

Light ship:	M/S "SPAR LYRA"	M/S "SPAR SCORPIO"
Lightweight	11044.1 T	11079.5 T
Longitudinal center of gravity from FR0	84.076 M	84.278 M
Vertical center of gravity from B.L.	11.853 M	11.853 M

General hydrostatic data of the vessel, such as displacement, deadweight, center of buoyancy, center of floating, metacenter, displacement per centimeter of draught and so on, are tabulated against the vessel's mean draught. Cross stability data, excluding the buoyancy effects of timber deck cargoes or the similar, are provided therein.

It is necessary to ensure a satisfactory safety of the ship at any time during each her voyage. Therefore, prior loading operation, the Master shall make a calculation in order to verify that no unacceptable stress in the ship's structure, no insufficient stability, nor inappropriate floating state will occur during the forthcoming voyage.

1.2 INSTRUCTION TO THE MASTER

A stamped copy of this booklet must be kept on board the vessel at all times, be complete, legible and readily available for use. If this booklet should be lost or become unusable, a replacement copy should be obtained immediately from the Owners or the Maritime Authorities (DNV, Det Norske Veritas).

Please note that frame 0 is used as reference in all calculations, i.e. AP_0 equal to frame zero and situated 200 mm aft of the rudder stock centre.

The loading conditions shown in this booklet are typical for the intended service of the vessel and are intended as guidance. It is thus emphasised that a separate calculation is necessary for all actual loading conditions.

This booklet contains all necessary data for the calculation of the ship's stability under various service conditions not including grain loading, which is included in the Grain Stability Manual.

It must be observed that if the ship is sailing under circumstances where the GM / KG limiting value is exceeded; the ship's stability might be insufficient.

Furthermore, the following should be noted:

- 1) Compliance with the stability criteria neither ensures absolute security against capsizing nor releases the master from his responsibility. Consequently, the master must always exercise sound judgement and good seamanship with due respect to weather conditions and the waters navigated. He must take appropriate precautions with regard to the navigation required due to the prevailing condition.
- 2) Steps shall be taken to ensure that the ship's cargo can be stowed in such a way that the criteria are met (maximum KG and minimum GM value according to the enclosed tables not exceeded) and the amount of cargo shall be limited if necessary, and/or ballasting shall take place.
- 3) Before the voyage commences care shall be taken to ensure that the cargo and large items of equipment are properly stowed in order to reduce any risk of shifting during the voyage.
- 4) It must be emphasised that the conditions calculated in this booklet are only to be regarded as guiding conditions. Immediately before the start of a new voyage the master has therefore to determine the vessel's trim and stability to ensure that all requirements concerning the stability are fulfilled.

See Cargo Loading and Securing Manual for detailed loading information. For grain loading, see Grain Stability Manual

According to IMO A.749(18) the following should be noted:

- 2.3.6 The stability criteria set minimum values of GM but no maximum values are recommended. It is advisable to avoid excessive values of GM, since these might lead to acceleration forces, which could be prejudicial to the ship, its complement, its equipment and to safe carriage of the cargo.
- 2.5 Operational procedures related to weather conditions
 - 2.5.1 All doorways and other openings through which water can enter into the hull or deckhouses, forecastle, etc., should be suitably closed in adverse weather conditions and accordingly all appliances for this purpose should be maintained on board and in good condition.
 - 2.5.2 Weathertight and watertight hatches, doors, etc., should be kept closed during navigation, except when necessarily opened for the working of the ship, and should always be ready for immediate closure and be clearly marked to indicate that these fittings are to be kept closed except for access. All portable deadlights should be maintained in good condition and securely closed in bad weather.
 - 2.5.3 Any closing devices provided for vent pipes to fuel tanks should be secured in bad weather.
 - 2.5.5 Reliance on automatic steering may be dangerous as this prevents ready changes to course, which may be needed in bad weather.
 - 2.5.6 In all conditions of loading, necessary care should be taken to maintain a seaworthy freeboard.
 - 2.5.7 In severe weather the speed of the ship should be reduced if excessive rolling, propeller emergence, shipping of water on deck or heavy slamming occurs. Six heavy slammings or 25 propeller emergences during 100 pitching motions should be considered dangerous.
 - 2.5.8 Special attention should be paid when a ship is sailing in following or quartering seas because dangerous phenomena such as parametric resonance, broaching to, deduction of stability on the wave crest, and excessive rolling may occur singularly, in sequence or simultaneously in a multiple combination, creating a threat of capsizing. Particularly dangerous is the situation when the wavelength is of the order of 1.0 to 1.5 ship's length. A ship's speed and/or course should be altered appropriately to avoid the abovementioned phenomena.
- 4.1.5 Operational measures.
 - 4.1.5.1 The stability of the ship at all times, including during the process of loading and unloading the timber deck cargo, should be positive and to a standard acceptable to the Administration. It should be calculated having regard to:
 - .1 the increased weight of timber deck cargo due to:
 - .1.1 absorption of water in dried or seasoned timber, and

- .1.2 ice accretion;
- .2 variations in consumables;
- .3 the free surface effect of liquid in tanks; and
- .4 weight of water trapped in broken spaces within the timber deck cargo and especially logs.

4.1.5.2 The master should:

- .1 cease all loading operations if a list develops for which there is no satisfactory explanation and it would be imprudent to continue loading;
- .2 before proceeding to sea, ensure that:
 - .2.1 the ship is upright;
 - .2.2 the ship has an adequate metacentric height; and
 - .2.3 the ship meets the required stability criteria.

4.1.5.4 Ships carrying timber deck cargoes should operate, as far as possible, with a safe margin of stability and with a metacentric height which is consistent with safety requirements.

5.3.3.11 The master should bear in mind that ice formation adversely affects the seaworthiness of the vessel as ice formation leads to:

- .1 an increase in the weight of the vessel due to accumulation of ice on the vessel's surfaces which causes the reduction of freeboard and buoyancy;
- .2 a rise of the vessel's centre of gravity due to the high location of ice on the structures with corresponding reduction in the level of stability;
- .3 an increase of windage area due to ice formation on the upper parts of the vessel and hence an increase in the heeling moment due to the action of the wind;
- .4 a change of trim due to uneven distribution of ice along the vessel's length;
- .5 the development of a constant list due to uneven distribution of ice across the breadth of the vessel;
- .6 impairment of the manoeuvrability and reduction of the speed of the vessel.

Finally, it should be pointed out to the ship's master that in case the ship undergoes a conversion, which will influence the stability conditions, new corrected stability information must be prepared.

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NAPA project no. P40357500 / Version CXS4210/ Arrangement A.

2 MAIN PARTICULARS

Ship's name	:	SPAR SCORPIO
Flag	:	NIS
IMO number	:	9307578
Call signal	:	LAFN6
Builders	:	Chengxi Shipyard
Yard No.	:	CX4210
Keel laying date	:	2006.05.29
Rules and Regulations	:	The vessel is built according to the rules of 'International Convention for safety of life at sea 1974' including protocol 1978 and all amendments thereto up to and including the 1998 amendments, and 'International Convention on Load Lines 1966'. Intact stability are according to IMO A.749(18).
Class	:	Det Norske Veritas; ✘ 1A1 Bulk Carrier, ESP, BC-A, Holds No. 2, 4 or 3 may be empty, NAUTICUS (New Building), DK(+), HA(+), IB(+), GRAIN-U, E0
Class identification	:	D25303

Main dimensions

Length overall	approx. 190.00 m
Length BP (Centre of rudder stock to forward perpendicular)	183.05 m
Breadth moulded	32.26 m
Depth to upper deck moulded.....	17.50 m
Design draught moulded.....	11.10 m
Scantling draught moulded	12.54 m
Displacement to design draught	56,419 ton
Displacement to scantling draught.....	64,609 ton

Please note that all longitudinal references in the calculation is made to frame zero, which is situated 200 mm aft of the rudder stock.

Light ship and COG

Determined light weight and COG of this vessel differ less than 0.5% of sister vessel, SPAR LYRA, therefore light weight and COG used are according to inclining test of SPAR LYRA dated 2004.11.02.

Weight.....	11,044.1 ton
LCG from AP	84.076 m
TCG from CL (positive to PS)	0.00 m
VCG from BL	11.853 m

Deadweight

Deadweight to design draught
(even keel and density of seawater of 1.025 t/m³).....45,375 ton

Deadweight to scantling draught
(even keel and density of seawater of 1.025 t/m³).....53,565 ton

Units

Lengths are measured in metres (m)
Weights are measured in tons (t) each 1000 kg

3 DEFINITIONS AND CONVERSION TABLE

Below is a list of the definitions and assumptions, which apply in this Stability Information Manual. The following definitions and assumptions apply:

Units	The metric system is used.
Shell plating	The average thickness of the shell plates is estimated at 16 mm and has been used as allowance in the hydrostatic calculations together with the keel plate thickness.
Keel	The thickness of the keel plate is 22 mm.
Draught	The draught T used in the hydrostatic tables, the tables of form stability and the tables of maximum permissible KG is measured from the base line at $L_{pp}/2$, i.e. amidships
Base line	The base line of the ship is the upper side of the keel plate.
DISP	Tabulated displacements are measured on the outside of the shell plating.
AP_c	Aft perpendicular (centre of rudder stock) located at 200 mm forward of frame 0.
AP_0	Aft perpendicular (related to all calculations in this manual) located at frame 0.
FP	Forward perpendicular located at frame 229 + 50 mm.
L_{pp}	Length between perpendiculars, i.e. FP- AP_0 .
KMT	is the transverse metacentric height at zero heel angle. KMT is measured from the base line.
LCB	is the longitudinal position of the centre of buoyancy. LCB is measured from AP_0 .
LCF	is the longitudinal position of the centre of flotation. LCF is measured from AP_0 .
TPC	is the immersion weight, i.e. the weight which when added or subtracted will change the draught by one centimetre.
MCT	is the longitudinal moment required to change the trim one centimetre.
T	is the moulded draught amidships, i.e. measured from the upper side of the keel plate at $L_{pp}/2$.
t_{aft}	is the moulded draught measured on AP_0 (frame zero).

t_{fwd}	is the moulded draught measured on FP.
TRIM	$TRIM = t_{aft} - t_{fwd}$ TRIM is positive when t_{aft} is larger than t_{fwd} , i.e. the ship has an aft trim. TRIM is negative when t_{fwd} is larger than t_{aft} , i.e. the ship has a forward trim.
TK	Draught amidships measured from the lower side of the keel plate at $L_{pp}/2$.
t_a	Draught reading on draught marks aft, i.e. to the lower side of the keel plate.
t_f	Draught reading on draught marks forward, i.e. to the lower side of the keel plate.
L_a	Distance from frame zero to draught marks aft, a positive value means that the draft marks are placed forward of AP_0 . Aft draught marks is situated at centre of the rudderstock (AP_C) and at frame 18, i.e. $L_a = 0.2$ meter or 14.4 meter.
L_m	Distance from plimsoll mark to draught marks mid, a positive value means that the draft marks are placed aft of the plimsoll mark. Mid-ship marks is situated 220 mm fwd of frame 114, i.e. $L_m = 0.206$ meter.
L_f	Distance from forward perpendicular to draught marks forward, a positive value means that the draft marks are placed aft of FP. Forward marks is situated at frame 228, i.e. $L_f = 0.850$ meter

For further information on draught marks see drawing no. 40.3575.00 / 293-01 Paint Lines.

Metric Conversion Table

Multiply by	To convert from	To obtain	
0.03937	Millimetres	Inches	25.4
0.3937	Centimetres	Inches	2.54
3.2808	Metres	Feet	0.3048
2.2046	Kilograms	Pounds	0.45359
0.9842	Metric tonnes (1000 kilos)	Long tons (2440 lbs)	1.0160
2.4998	Tonnes per centimetre (immersion)	Tonnes per inch (immersion)	0.40
8.2014	Moment to change trim one centimetre (ton-m)	Moment to change trim one inch (foot-ton)	0.1220
187.9767	Metre-radians	Feet degrees	0.0053
35.3147	Cubic metre	Cubic feet	0.0283
	To obtain	To convert from	Multiply by

Relationship between weight and volume:

1000 cubic millimetres	=	1 cubic centimetre
1 cubic centimetre of fresh water (SG=1.000)	=	1 gram
1000 cubic centimetre of fresh water (SG=1.000)	=	1 kilogram
1 cubic metre of fresh water (SG=1.000)	=	1 ton
1 cubic metre of seawater (SG=1.025)	=	1.025 tonnes
1 ton of seawater (SG=1.025)	=	0.975 m ³

Conversion between cubic feet per tonnes or long tonnes and tonnes per cubic metre:

$$1/(0.0283 * x \text{ cu.ft/t}) = y \text{ t/m}^3$$

$$1/(0.0279 * x \text{ cu.ft/lt}) = y \text{ t/m}^3$$

$$35.316 * (1/x \text{ t/m}^3) = y \text{ cu.ft/t}$$

$$35.881 * (1/x \text{ t/m}^3) = y \text{ cu.ft/lt}$$

4 NOTES REGARDING STABILITY AND LOADING OF THE SHIP

4.1 Stability

The stability of a vessel in general is its ability to maintain an upright position or to re-establish this after a disturbance. For the seaworthiness of an undamaged vessel it is sufficient to investigate the stability in the transverse direction. This depends on the position of two points relative to each other, the centre of gravity (G) and the transverse metacentre M, see figure on next page.

The metacentric height GM, the distance between the points G and M, means the stability for small angles and is given by the following equation:

$$GM = KMT - KG$$

The centre of gravity (KG) above keel depends on the distribution of cargo in the vessel. By adding the single weights and their moments related to base line and by division of the total moments with the total weights, the centre of gravity KG (=VCG) may be obtained. The transverse metacentre (M) above keel (K), only dependent on the lines of the vessel, may be obtained from the hydrostatic tables.

In order to obtain a positive stability ($GM > 0$) the centre of gravity must lie below the transverse metacentre (KMT). In the event of critical loading conditions (consumed stores or "iced-up" vessel), this condition can be achieved by filling the double bottom tanks.

4.2 Curves of righting levers

Curves of righting levers are generally used to represent the stability during inclinations. To ensure that the vessel's stability is positive, the stability arm GZ must be positive.

To illustrate the righting levers at various inclinations of the vessel in a condition, the effective righting lever GZ is derived from:

$$GZ = GM \times \sin \Theta + MS, \text{ where}$$

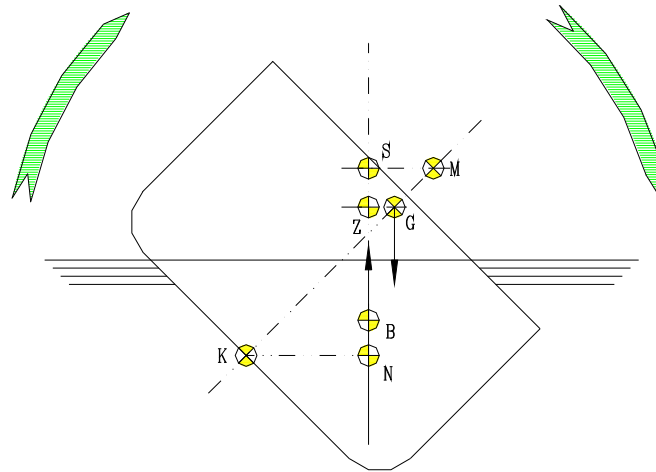
$$MS = \text{Residual stability arm}$$

$$GM = \text{Metacentric height as defined above}$$

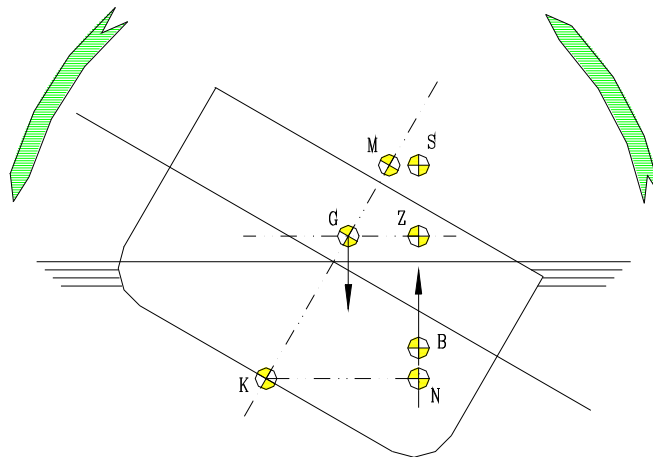
$$\Theta = \text{Angle of inclination}$$

The righting levers GZ calculated in accordance with the mentioned formula are plotted over the angle of inclination.

An example of the derivation of the curve of righting levers is shown on every condition sheet in this booklet in section 7.



NEGATIVE STABILITY



POSITIVE STABILITY



4.3 Free surface effects

Provided a tank is completely filled with liquid, no movement of the liquid is possible and the effect on the ship's stability is precisely the same as if the tank contained solid material.

When a quantity of liquid is drained from the tank, the situation changes completely and the stability of the ship is adversely affected by what is known as the "free surface effect". This adverse effect on the stability is referred to as a "loss in GM" or as a "virtual rise in KG" and is calculated as follows:

Free surface moment = $I \times \rho$

where I = transverse inertia moment of tank in m^4

where ρ = density of tank cargo in t/m^3

The free surface moment is measured in tons x metres (t x m)

Loss in GM due to Free Surface Effects (in metres) =

$$\frac{\text{Sum of Free Surface Moments in tons x metres}}{\text{Displacement of Vessel in tons}}$$

The 'Free Surface Effect' of all oil, fuel, freshwater, feed water and service tanks should be taken into account in all conditions, when these tanks are not completely filled.

In calculating the effect of free surfaces of consumable liquids, it shall be assumed that for each type of liquid at least one transverse pair or a single centreline tank has a free surface, and the tank or combination of tanks to be taken into account shall be those where the effect of free surfaces is the greatest.

It is of great importance to the safety of the vessel that all tanks are included in calculations regarding the corrected GMt.

If the contents of one or more ballast tanks will change during the voyage, this has to be considered in the stability calculations.

4.4 Hydrostatic and isocline stability data

The data given in the hydrostatic tables and in the isocline stability tables (MS- and KN-tables) are presented as a function of the ship's moulded draught amidships T for the following trim values: **-1.0, 0.0, 1.0, 2.0 and 3.0 metres** (positive trim is trim aft).

If the vessel has a trim exceeding the range of tabulated trims, the values of the hydrostatic data and the righting levers will vary from those given in, or interpolated from, the tables. Extrapolating of values should therefore be avoided. This means that it is important to keep the vessel within a range of trim corresponding to the tabulated trims.

The hull definition used in the calculations is based on the faired lines. The stability model is defined with rudder, forecastle, breakwater, cargo hatch coaming and cargo hatches.

4.5 Use of tables

The tables for hydrostatics, form stability and maximum permissible KG should be entered with the ship's moulded draught amidships, T, measured from the upper side of the keel plate.

$$\text{i.e.: } T = 0.5 (t_{\text{aft}} + t_{\text{fwd}})$$

When used in connection with stability calculations the height of all centres of gravity must refer to the same reference line.

4.6 Trim and draught restrictions

The vessel has to meet the following minimum draught restrictions:

Min. draught fore	5.20 m (recommendation, when slamming can be expected)
Min. draught aft	6.50 m
Min. draught aft	7.10 m (heavy ballast condition only)

4.7 Immersion of Propeller

Propeller immersion (I/D) is expressed as follows:

$$I/D (\%) = \frac{(t_{\text{aft}} - a) * 100}{D}$$

Where

I : Vertical distance from bottom of propeller to water line at the propeller centre (m)

D : Diameter of propeller (m) = 5.9 m

a : Vertical distance from bottom of keel to bottom of propeller at the propeller centre (m) = 0.55 m

t_{aft} : Aft draught (m)

4.8 Air draught

The air draught can be calculated by the following formula:

$$\text{Air draught} = H - \left(\text{TA} - \frac{X \cdot \text{Trim}}{183,25} \right)$$

where,

H is the height above BL to the relevant point
X is the distance from AP to the relevant point
TA is the draught at AP
Trim is the difference between draught aft and draught forward.

4.9 Visibility

When the vessel is loaded with deck cargo the trim can be restricted because of visibility. Following visibility requirements shall be obtained by taking draught and trim into account.

Panama – full load, to be less than one ship's length	190.0 m
Panama – ballast, to be less than 1.5 times the ship's length	285.0 m
IMO requirement general, to be less than two times the ship's length	380.0 m

The visibility can be calculated by the following formula:

$$\text{Visibility} = \frac{\text{TA} - 35,7 + 24,2 \cdot \frac{H - 35,7}{X - 24,2}}{\frac{H - 35,7}{X - 24,2} + \frac{\text{Trim}}{183,25}} - 186,15 + 3,85$$

where

H is the height above BL to the sight point
X is the distance from AP to the sight point
TA is the draught at AP
Trim is the difference between draught aft and draught forward.

4.10 Draught and trim calculation

For calculation of trim and draught based on a loading condition calculation, the following data are required for ascertaining trim and draft:

a) Longitudinal centre of gravity of the ship calculated as follows:

$$\text{LCG} = \frac{\text{Summation of longitudinal weight moments}}{\text{Displacement}}$$

- b) Longitudinal centre of buoyancy, LCB
- c) Displacement, DISP
- d) Moment to change trim, MCT
- e) Longitudinal centre of flotation, LCF

LCB, LCF, and MCT are taken from the hydrostatic tables (trim = 0 metres) corresponding to the actual displacement.

The trim is calculated according to the following formula:

$$\text{TRIM} = \frac{\text{DISP} \cdot (\text{LCB} - \text{LCG})}{\text{MCT} \cdot 100}$$

The moulded draughts at AP (t_{aft}) and FP (t_{fwd}) are calculated according to the following formulas:

$$t_{\text{aft}} = \frac{\text{LCF} \cdot \text{TRIM}}{L_{\text{pp}}} + T$$

$$t_{\text{fwd}} = t_{\text{aft}} - \text{TRIM}$$

Where T is the draught taken from the hydrostatic tables (trim = 0 metres) corresponding to the actual displacement.

The draught at the reading marks is as follows:

$$t_a = t_{\text{aft}} - \frac{\text{TRIM} \cdot L_a}{L_{\text{pp}}} + \text{keelplate thickness}$$

$$t_f = t_{\text{fwd}} + \frac{\text{TRIM} \cdot L_a}{L_{\text{pp}}} + \text{keelplate thickness}$$

If the righting lever curve (GZ curve) has to be established, the KMT and MS values to be used for this purpose are calculated for the actual trim value. This is done by interpolation for the KMT and MS values, respectively, between the two tabulated trim values nearest to the actual trim.

4.11 Displacement from draught readings

Following procedure can be used to calculate the vessels actual displacement from the draft mark readings t_a and t_f :

- 1) The mean draft, T, which is used to enter the hydrostatic tables is calculated as follows:

$$\text{TRIM} = \frac{(t_a - t_f) \cdot L_{pp}}{L_{pp} - L_a - L_f}$$

$$t_{\text{aft}} = t_a + \frac{L_a \cdot \text{TRIM}}{L_{pp}} - \text{keelplate thickness}$$

$$t_{\text{fwd}} = t_f - \frac{L_f \cdot \text{TRIM}}{L_{pp}} - \text{keelplate thickness}$$

$$T = 1/2 (t_{\text{aft}} + t_{\text{fwd}})$$

- 2) The displacement DISP_0 according to the above mentioned draft T is read from the hydrostatic tables for trim = 0 m. Similarly, LCF and TPC are read from the hydrostatic tables for trim = 0 m.
- 3) The displacement, DISP, taking into account the trim, is calculated by use of the following formula:

$$\text{DISP} = \text{DISP}_0 + \frac{\frac{L_{pp}}{2} - \text{LCF}}{L_{pp}} \cdot \text{TRIM} \cdot \text{TPC} \cdot 100$$

For instructions on the actual use of the formulas and interpolation of values from the hydrostatic tables, please refer to section 5 with worked example.

4.12 Minimum angle of flooding

When the vessel has a large angle of heel, unprotected openings in the hull, superstructure or deck can be immersed. This will result in a progressive flooding of the hull and in a reduction of GM.

According to the regulations of IMO A749 it is only permissible to calculate the stability up to the angle where flooding occurs. In section 4.12 this angle is called X or 40 degrees.

Unprotected and weathertight openings have been taken into account when calculating the maximum allowable KG (minimum allowable GM) limit curves. All unprotected openings are beyond 40 degrees of heel and will not affect the stability range. Opening type and position is shown in section 11.

4.13 Intact stability criteria

As the ship is required to comply with IMO Resolution A.749(18), any sailing condition has to comply with the following minimum stability criteria:

- A Area under curve up to 30 degrees to be not less than 0.055 metres radian.
- B Area under curve up to X degrees to be not less than 0.09 metres radian.
- C Area between 30 degrees and X degrees to be not less than 0.03 metres radian.
- X 40 degrees or any lesser angle at which the lower edges of any openings in the hull, superstructure or deck houses which lead below and cannot be closed weathertight, would be immersed.
- D The righting lever GZ should be at least 0.20 m at an angle of heel equal to or greater than 30 degrees.
- E The maximum righting arm GZ should occur at an angle of heel preferably exceeding 30 degrees but not less than 25 degrees.
- F Initial GM to be not less than 0.15 metres.

Compliance with the above mentioned stability criteria is readily established by use of the diagrams and tables of maximum allowable KG in section 10 of this booklet.

To fulfil the demands regarding the intact stability (A-F), the vessel should at all times comply with the tables of maximum allowable KG and/or minimum allowable GM in section 10.

As the vessel has to comply at all times with both the intact and the damage stability requirements, it is important to note that the curve of minimum allowable GM shown in section 10 is the resulting minimum allowable GM of both the intact and the damage stability requirements.

See also section 4.14 regarding stability criteria due to weather and 4.15 regarding the damage stability requirements.

4.14 Effect of wind and rolling

As this vessel is able to carry load on deck, the stability with regard to wind and rolling has been examined in accordance with the demands of the weather criterion of IMO Res. A.749(18).

The wind criteria is included in the limit curves for intact stability, which is presented in section 10.

4.15 Demands regarding damage stability

The vessel is built according to the rules of the 'International Convention for safety of life at sea 1974' (SOLAS) including protocol 1978 and all amendments thereto up to and including the 1998 amendments.

The damage stability result is presented in section 10 together with the intact limit curves. All documentation and calculations on damage stability is presented in SOLAS Part B-1 Regulation 25 Damage Stability Manual.

In order to fulfil the demands regarding both the intact stability and the damage stability, the vessel should comply at all times with the curves in section 10.

4.16 Ballast Water Exchange

As IMO recommends that a ship shall be provided with a Ballast Water Management Plan detailing the way the ship can comply with any measures demanded by a port state, such a plan has been prepared to meet the recommendations of the

- INTERNATIONAL MARITIME ORGANIZATION (IMO) ASSEMBLY RESOLUTION A.868(20);
- "GUIDELINES FOR THE CONTROL AND MANAGEMENT OF SHIPS' BALLAST WATER TO MINIMISE THE TRANSFER OF HARMFUL AQUATIC ORGANISMS AND PATHOGENS"

For ballast water exchange – please refer to the Ballast Water Management Plan for M/S SPAR LYNX, 40.3580.00/057_01_CXS4205.

4.17 Load and strength calculation

Class notation: Det Norske Veritas; ✕ 1A1 Bulk Carrier, ESP, BC-A, Holds No. 2, 4 or 3 may be empty, NAUTICUS (New Building), DK(+), HA(+), IB(+), GRAIN-U, E0

For detailed loading information, including maximum deck load and tanktop load – please refer to the Cargo Loading and Securing Manual.

4.17.1 Limitations due to strength in flooded conditions

The following restriction is caused by the requirement that the vessel shall comply with the rules for flooding outlined in URS17 as well as with the requirements to strength in URS25 – see also the Cargo Loading and Securing Manual.

The allowable shear force due to flooding is:

Position Dist. from AP	Fr. 34 27.20 m	Fr. 45+300 mm 36.30 m	Fr. 68+50 mm 54.45 m	Fr. 91-200 mm 72.60 m	Fr. 136+100 mm 108.90 m
Allowable S.F. (flooding)	+9360 ton - 9329 ton	+8994 ton - 8906 ton	+8994 ton - 8906 ton	+/- 9310 ton	+/- 9310 ton

Position Dist. from AP	Fr. 159-150 mm 127.05 m	Fr. 193-120 mm 154.28 m	Fr. 219 175.20 m
Allowable S.F. (flooding)	+8759 ton - 8853 ton	+8759 ton - 8853 ton	+10086 ton - 10112 ton

The allowable bending moment due to flooding is:

Position Dist. from AP	AP 0.00 m	Fr.80+400 mm 64.40 m	Fr.160+280 mm 128.28 m	FP 183.25 m
Allowable B.M. (flooding)				
Sagging	-1000 tm	-212997 tm	-212997	-1000
Hogging	1000 tm	233201 tm	233201	1000

4.17.2 Allowable still water shear force

Allowable Shear Force Seagoing = +9867 ton / -9904 ton
Allowable Shear Force harbour = +10231 ton / -10250 ton

Position Dist. from AP	Fr. 34 27.20 m	Fr. 45+300 mm 36.30 m	Fr. 68+50 mm 54.45 m	Fr. 91-200 mm 72.60 m	Fr. 136+100 mm 108.90 m
Allowable S.F. (Seagoing)	+8830 ton - 8786 ton	+8307 ton - 8181 ton	+8307 ton - 8181 ton	+/- 8758 ton	+/- 8758 ton
Allowable S.F. (Harbour)	+9713 ton - 9691 ton	+9451 ton - 9388 ton	+9451 ton - 9388 ton	+/- 9677 ton	+/- 9677 ton

Position Dist. from AP	Fr. 159-150 mm 127.05 m	Fr. 193-120 mm 154.28 m	Fr. 219 175.20 m
Allowable S.F. (Seagoing)	+7971 ton - 8106 ton	+7971 ton - 8106 ton	+9867 ton - 9904 ton
Allowable S.F. (Harbour)	+9283 ton - 9350 ton	+9283 ton - 9351 ton	+10231 ton - 10250 ton

4.17.3 Correction to actual shear force

For comparison with the allowable values of shear force the actual calculated shear force might be corrected, using the following formula:

$$Q = Q_{act} - \Delta Q_{SL}$$

(In case of negative values of Q_{act} the value of ΔQ_{SL} to be added to Q_{act} .)

Where

$$\Delta Q_{SL} = C_P(P_H + \sum(K_N P_N)) - C_D T_1 \quad (\text{kN})$$

And

P_H = cargo or ballast (in t) in the hold in question.

P_N = bunker or ballast (in t) in the double bottom below the considered hold.

T_1 = draught in m at the middle of the hold.

K_N = To be taken from the table below.

C_P = To be taken from the table below.

C_D = To be taken from the table below.

Hold No.	K_N	C_P	C_D (t/m)
1	1.1518	1.993	1423
2	1.0096	2.333	1771
3	1.0098	2.333	1771
4	1.0096	2.333	1771
5	1.2775	1.797	1357

The mass of ballast water in a side ballast tank shall not be included in the shear force correction calculation.

Please also refer to the Cargo Loading and Securing Manual.

4.17.4 Allowable still water bending moments

Min. Bending Moment Seagoing (Sagging) = - 152905 tm

Max. Bending Moment Seagoing (Hogging) = + 173293 tm

Position Dist. from AP	AP 0.00 m	Fr.80+400 mm 64.40 m	Fr.160+280 mm 128.28 m	FP 183.25 m
Max. Seagoing				
Sagging	-1000 tm	-152905 tm	-152905 tm	-1000
Hogging	1000 tm	173293 tm	173293 tm	1000

Min. Bending Moment Harbour (Sagging) = - 230375 tm
Max. Bending Moment Harbour (Hogging) = + 246685 tm

Position Dist. from AP	AP 0.00 m	Fr.80+400 mm 64.40 m	Fr.160+280 mm 128.28 m	FP 183.25 m
Max. harbour				
Sagging	-1000 tm	-230375 tm	-230375 tm	-1000
Hogging	1000 tm	246685 tm	246685 tm	1000

4.17.5 Sloshing

For this vessel sloshing will only be a problem when water ballast is filled into hold no. 3 while at sea.

Consequently, filling or emptying of hold no. 3 should be avoided while at sea or only undertaken in calm weather with little or no risk of rolling and pitching. It should further be ascertained that the hold has been pumped totally full.

Filling degrees between 20% and 90% shall in all circumstances be avoided as sloshing can arise in these conditions with possible serious damage to the vessel's structure.

4.17.6 Loading of timber deck cargo

Ships carrying timber deck cargoes should operate, as far as possible, with a safe margin of stability and with a metacentric height that is consistent with the safety requirements.

At all time during a voyage, the metacentric height GM should fulfil the stability criteria's after correction for the free surface effects, the absorption of water of 10% by the deck cargo, and ice accretion.

When carrying timber deck cargo, the strength of the timber lashings should be observed and the stowage practice according to the Code of Safe Carrying of Timber should be noted.

4.17.7 Light ship weight and distribution

The lightweight and distribution is estimated from the "Weight Calculation". Steel, machinery and equipment are divided into several lightweight elements. The elements and distribution are presented in section 12.

5 WORKING EXAMPLE

On the following pages is shown a worked example where a typical loading condition has been calculated 'by hand'. It is also shown how and where the different hydrostatic and stability data are taken from the appropriate tables.

For the sake of completeness the formula for interpolation shall be mentioned:

$$Y = Y_1 + (X - X_1) \cdot \frac{Y_2 - Y_1}{X_2 - X_1}$$

where;

- Y = interpolated value corresponding to the value X
- Y₁ = tabulated value corresponding to X₁
- Y₂ = tabulated value corresponding to X₂
- X₁ = to be less than X and
- X₂ = to be higher than X

Notes regarding worked example

Page 1

1. All weights incl. the light ship, the corresponding KG, LCG and free surface moments (FSM) are entered into the sheet.
2. The vertical and the longitudinal moment are calculated.
3. The following are summed:

WEIGHT	[A]	(Displacement)
V-MOM	[B]	(Actual KG · W)
L-MOM	[C]	
FSM	[D]	
4. Actual KG · W.
Actual KG · W [E] = FSM + V-MOM = [D] + [B]
5. The vertical and the longitudinal center of gravity.

$$KG[F] = \frac{\text{Actual W} \cdot KG}{\text{Displacement}} = \frac{[E]}{[A]}$$

$$LCG[G] = \frac{(\text{Sum L - MOM})}{\text{Displacement}} = \frac{[C]}{[A]}$$

Page 2

1. The LCG [G] is taken from page 1.
2. Mean draught [K], LCF [H], LCB [I] and MCT [J] are taken from tables for hydrostatic data (section 8).
The tables are entered with the displacement and zero trim.

3. Trim

$$Trim[L] = \frac{(LCB - LCG) \cdot Displacement}{MCT \cdot 100} = \frac{([I] - [G]) \cdot [A]}{[J] \cdot 100}$$

4. Draught aft, forward and at $L_{PP}/2$.

$$Draught\ aft\ [M] = Draught\ mean + \frac{LCF \cdot Trim}{L_{PP}} = [K] + \frac{[H] \cdot [L]}{L_{PP}}$$

$$Draught\ forward\ [N] = Draught\ aft - Trim = [M] - [L]$$

$$Draught\ at\ L_{PP}/2\ [O] = \frac{Draught\ forw. + draught\ aft}{2} = \frac{[M] + [N]}{2}$$

5. The draught aft and forward are corrected for keel plate thickness [P] and distance from the perpendiculars to the draught marks [Q,R].

$$Draught\ aft\ [S] = Draught\ aft + plate\ thickness - \frac{L_a \cdot Trim}{L_{PP}} = [P] + [M] - \frac{[Q] \cdot [L]}{L_{PP}}$$

$$Draught\ for\ [T] = Draught\ fore + plate\ thickness + \frac{L_f \cdot Trim}{L_{PP}} = [P] + [M] + \frac{[R] \cdot [L]}{L_{PP}}$$

6. The KG [F] is taken from page 1.
7. Maximum allowable KG (VCG) or minimum allowable GM is taken from the tables and curves in section 10 according to the intact and damage stability.

The tables are entered with trim and mean draught.

8. Stability criteria.
If $KG < (\text{Max. allowable KG})$ or $GM > (\text{Min. allowable GM})$ the stability of the ship is sufficient.

Ship :	DIAMOND 53	Date :		Sign. :	HVH	
Condition :	L-13	File :	WORK_INTACT_D53			
Description : Hold 1,2,4 and 5 filled equal with dens 1.35 - Departure 100% Supply						
	WEIGHT	VCG	V-MOM	LCG	L-MOM	FSM
	[t]	[m]	[tm]	[m]	[tm]	[tm]
No.1 Hold	12600,0	8,04	101304	158,71	1999746	0
No.2 Hold	13020,0	7,86	102337	130,03	1692991	0
No.3 Hold	0,0	0,00	0	0,00	0	0
No.4 Hold	13020,0	7,86	102337	72,43	943039	0
No.5 Hold	12480,0	8,07	100714	43,35	541008	0
Diesel Oil	195,2	15,63	3051	14,02	2737	190
Fresh Water	239,1	15,85	3790	-0,81	-194	174
Heavy Fuel Oil	1829,9	12,41	22709	20,52	37550	1424
Lubricating Oil	113,5	10,66	1210	9,36	1062	164
Misc. Oil	0,0	0,00	0	0,00	0	0
Misc. Water	8,8	3,23	28	7,26	64	224
Water Ballast	0,0	0,00	0	0,00	0	8540
Crew, Provision and stores	55,0	16,82	925	20,00	1100	0
Light ship	11044,1	11,85	130873	84,08	928588	
Total	A 64606		B 569278		C 6147690	
Total FSM			D 10716			D 10716
Actual VCG*W	[(B)+(D)]		E 579994	Incl. FSM		
VCG	[(E)/(A)]	F 8,98				
LCG	[(C)/(A)]			G 95,16		

Ship :	DIAMOND 53		HVH
Condition :	L-13	WORK_INTACT_D53	
Hold 1,2,4 and 5 filled equal with dens 1.35 - Departure 100% Supply			
Hydrostatic data: (Table values for trim = 0)			
LCG	(G) from page 1	G	95,16
LCF	Table values (Stability Manual 055-01 section 8)	H	88,92
LCB	Table values (Stability Manual 055-01 section 8)	I	96,56
TRIMMOM.	Table values (Stability Manual 055-01 section 8)	J	797,10
Draught and trim			
Mean draught	Table values (Stability Manual 055-01 section 8)	Lpp =	183,25
Trim	$= \frac{((I) - (G)) \cdot (A)}{(J) \cdot 100}$	L	1,13
Draught at AP (mld.)	$= (K) + \frac{(L) \cdot (H)}{L_{PP}}$	M	13,10
Draught at FP (mld.)	$= (M) - (L)$	N	11,97
Draught at L _{pp} /2 (mld.)	$= \frac{(M) + (N)}{2}$	O	12,53
Keel plate thickness		P	0,022
L _a	(dist. from draught marks aft, positive=fore of AP)	Q	0,20
L _f	(dist. from draught marks fore, positive=aft of FP)	R	0,85
Draught at marks aft	$= (P) + (M) - \frac{(L) \cdot (Q)}{L_{PP}}$	S	13,12
Draught at marks fore	$= (P) + (N) + \frac{(L) \cdot (R)}{L_{PP}}$	T	11,99
Max. allowable VCG according to intact & damage stability			
Actual VCG (KG)	(F) from page 1	F	8,98
Max. VCG Trim: x = 1	Table values (Stability Manual 055-01 section 10)	U	12,53
Max. VCG Trim: y = 2	Table values (Stability Manual 055-01 section 10)	V	12,54
Max. allowable VCG	$= (U) + \frac{(L) - x}{y - x} \cdot ((V) - (U))$	W	12,54
(F) < (W) : The stability of the ship is sufficient acc. to intact stability			

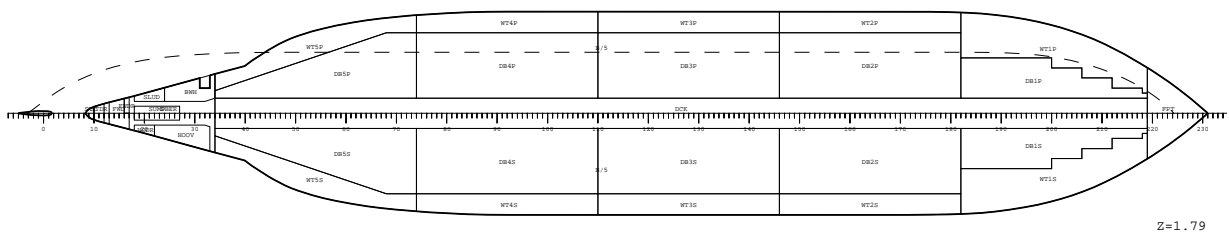
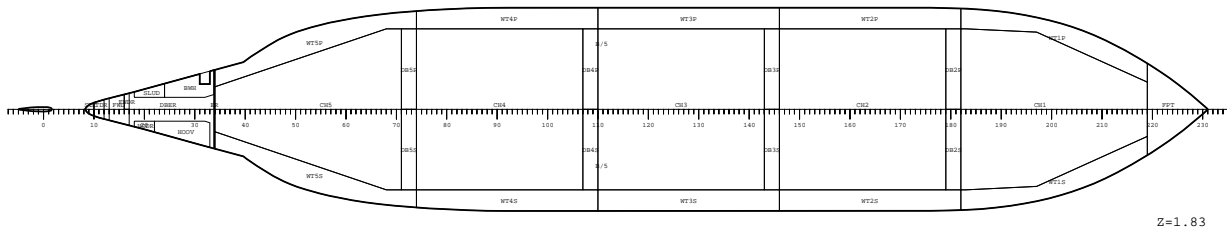
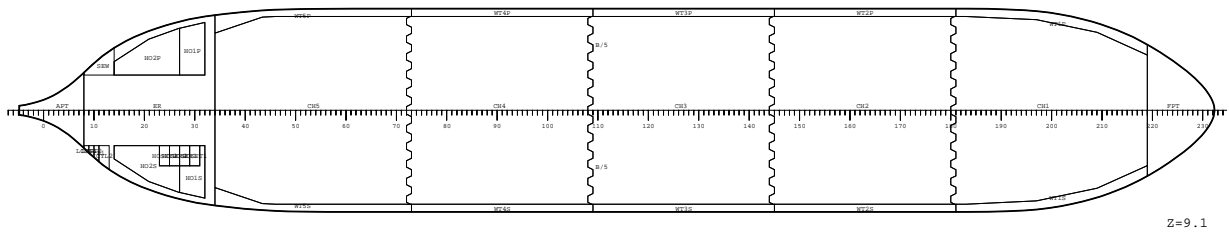
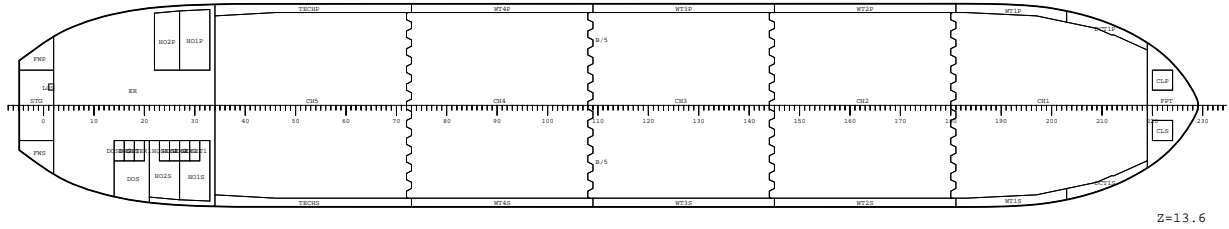
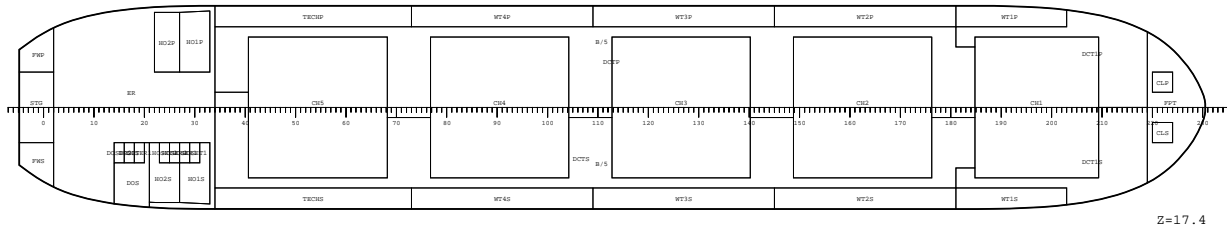
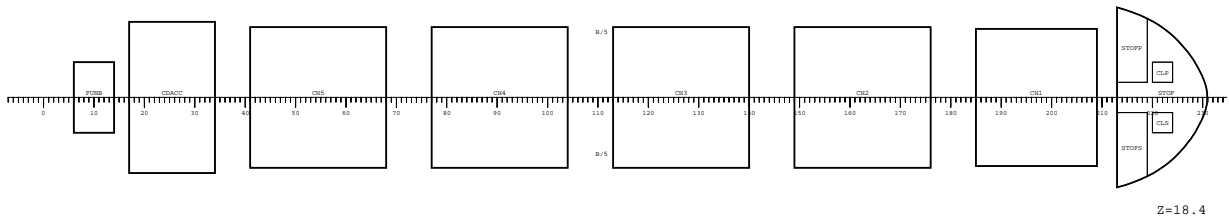
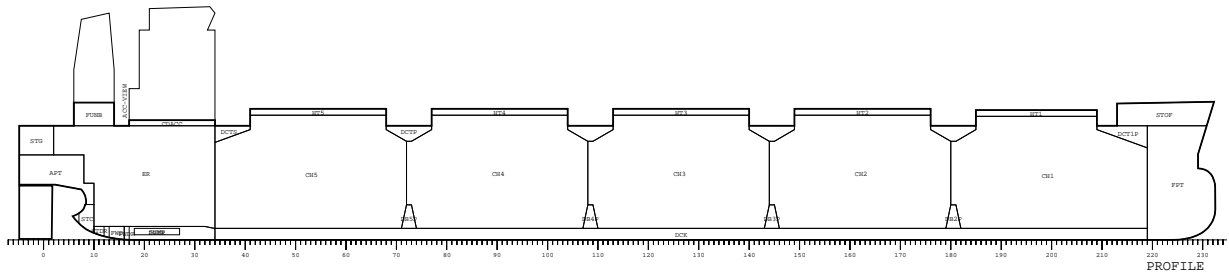
6 TANK AND CAPACITY INFORMATION

Following plot and table shows the arrangement and capacities used in the calculations.

DIAMOND 53 - HANDYMAX BULK CARRIER

PLOT OF SHIP MODEL / ROOM DEFINITION

SCALE 1/1200



NAME	TEXT	NET100 m3	NET98 m3	LCG m	TCG m	VCG m	FSM m4
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CAPACITY OF Solid Cargo

CH1	NO.1 CARGO HOLD	12437.9	12189.1	158.60	0.00	10.12	49541
CH2	NO.2 CARGO HOLD	13347.0	13080.0	130.02	0.00	10.21	63136
CH3	NO.3 CARGO HOLD	13348.7	13081.8	101.22	0.00	10.21	63147
CH4	NO.4 CARGO HOLD	13346.9	13080.0	72.42	0.00	10.21	63136
CH5	NO.5 CARGO HOLD	13271.5	13006.1	43.26	0.00	10.52	66827
SUBTOTAL		65752.0	64437.0	100.38	0.00	10.26	

CAPACITY OF Water Ballast

FPT	FORE PEAK TANK	1874.3	1836.8	179.02	0.00	9.30	4265
DB1P	NO.1 DB BALLAST P	245.5	240.6	157.12	5.15	0.91	448
DB1S	NO.1 DB BALLAST S	245.5	240.6	157.12	-5.15	0.91	448
WT1P	NO.1 WT BALLAST P	1066.9	1045.5	158.83	12.75	7.19	1407
WT1S	NO.1 WT BALLAST S	1066.9	1045.5	158.83	-12.75	7.19	1407
DB2P	NO.2 DB BALLAST P	607.7	595.6	132.91	7.49	1.24	2680
DB2S	NO.2 DB BALLAST S	607.7	595.6	132.91	-7.49	1.24	2680
WT2P	NO.2 WT BALLAST P	1008.5	988.3	130.60	14.86	8.90	90
WT2S	NO.2 WT BALLAST S	1008.5	988.3	130.60	-14.86	8.90	90
DB3P	NO.3 DB BALLAST P	607.7	595.6	104.11	7.49	1.24	2680
DB3S	NO.3 DB BALLAST S	607.7	595.6	104.11	-7.49	1.24	2680
WT3P	NO.3 WT BALLAST P	1009.8	989.6	101.82	14.86	8.89	91
WT3S	NO.3 WT BALLAST S	1009.8	989.6	101.82	-14.86	8.89	91
DB4P	NO.4 DB BALLAST P	607.7	595.6	75.31	7.49	1.24	2680
DB4S	NO.4 DB BALLAST S	607.7	595.6	75.31	-7.49	1.24	2680
WT4P	NO.4 WT BALLAST P	998.1	978.2	73.13	14.85	8.98	89
WT4S	NO.4 WT BALLAST S	998.1	978.2	73.13	-14.85	8.98	89
DB5P	NO.5 DB BALLAST P	435.1	426.4	49.43	6.38	1.38	1485
DB5S	NO.5 DB BALLAST S	435.1	426.4	49.43	-6.38	1.38	1485
WT5P	NO.5 WT BALLAST P	844.2	827.3	41.00	12.97	5.76	877
WT5S	NO.5 WT BALLAST S	844.2	827.3	41.00	-12.97	5.76	877
TECHP	HOLD WASH WATER P	376.6	369.1	42.71	14.54	15.71	96
TECHS	HOLD WASH WATER S	376.6	369.1	42.71	-14.54	15.71	96
APT	AFT PEAK TANK	642.1	629.3	2.33	0.00	11.53	8332
SUBTOTAL		18131.9	17769.3	104.35	-0.00	6.71	

CAPACITY OF Heavy Fuel Oil

HO1P	NO.1 HFO DEEP P	433.9	425.3	23.89	9.91	12.56	355
HO1S	NO.1 HFO DEEP S	343.4	336.5	24.07	-10.62	12.31	211
HO2P	NO.2 HFO DEEP P	533.2	522.5	17.92	9.46	12.38	592
HO2S	NO.2 HFO DEEP S	474.2	464.7	17.47	-9.93	12.39	494
HOSER1	NO.1 HFO SERVICE TANK	45.2	44.3	22.40	-7.19	13.50	4
HOSER2	NO.2 HFO SERVICE TANK	45.2	44.3	20.80	-7.19	13.50	4
HOSET1	NO.1 HFO SETTling TANK	45.2	44.3	24.00	-7.19	13.50	4
HOSET2	NO.2 HFO SETTling TANK	45.2	44.3	19.20	-7.19	13.50	4
HOOV	HFO OVERFLOW TK	38.5	37.7	22.69	-3.19	1.31	27
SUBTOTAL		2003.9	1963.9	20.58	-0.22	12.30	

NAME	TEXT	NET100 m3	NET98 m3	LCG m	TCG m	VCG m	FSM m4

CAPACITY OF Diesel Oil							
DOS	DO DEEP TANK S	166.5	163.1	14.20	-11.76	15.65	211
DOSER1	NO.1 DO SERVICE TANK	22.6	22.2	15.20	-7.19	15.75	4
DOSER2	NO.2 DO SERVICE TANK	22.6	22.2	12.00	-7.19	15.75	4
DOSET	DO SETTLLING TANK	22.6	22.2	13.60	-7.19	15.75	4

SUBTOTAL		234.3	229.6	14.03	-10.44	15.68	
CAPACITY OF Lubricating Oil							
LOST1	NO.1 LO STORE TK	17.1	16.8	6.81	-8.43	11.77	29
LOST2	NO.2 LO STORE TK	18.7	18.4	7.61	-8.57	11.69	33
CYL1	NO.1 CYL OIL TK	20.2	19.8	8.40	-8.72	11.63	36
CYL2	NO.2 CYL OIL TK	44.4	43.6	9.62	-8.94	11.56	81
SUMP	LO SUMP TANK	16.1	15.8	18.00	0.00	1.31	7
LOAUX1	NO.1 LO A/E TANK	4.3	4.2	2.00	-3.20	15.65	0
LOAUX2	NO.2 LO A/E TANK	4.3	4.2	2.00	-4.80	15.65	0
LOS	LO STERN TUBE TK	2.0	2.0	1.20	2.90	14.80	0
CYLS1	NO.1 CYL OIL SERV. TK	0.8	0.7	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.8	0.7	26.20	3.60	14.50	0

SUBTOTAL		128.7	126.1	9.36	-7.01	10.69	
CAPACITY OF Fresh Water							
FWP	FW TANK P	119.5	117.1	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	117.1	-0.81	-8.22	15.85	87

SUBTOTAL		239.1	234.3	-0.81	-0.00	15.85	
CAPACITY OF Misc Oil							
HODR	HFO DRAIN TANK	4.9	4.8	16.23	-2.45	1.50	1
SLUD	SLUDGE OIL TANK	9.1	8.9	17.25	2.56	1.46	2
STDR	STERN TUBE DRAIN TK	4.5	4.4	8.89	0.00	1.58	3

SUBTOTAL		18.5	18.1	14.95	0.61	1.50	
CAPACITY OF Misc Water							
STC	S/T COOLING	8.8	8.6	7.26	-0.00	3.23	2
SEW	SEWAGE HOLDING TK	124.6	122.1	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	35.0	34.3	23.40	3.18	1.27	21
FWD	FEED WATER TANK	17.4	17.1	11.95	-0.18	1.34	20
FWDR	FW DRAIN TANK	3.1	3.0	13.21	1.03	1.28	1

SUBTOTAL		188.9	185.2	11.90	6.41	8.19	

7 LOADING CONDITIONS

This section contains summary of selected loading conditions with intact stability and longitudinal strength.

Regarding Ballast Operations During Voyage, Intermediate Conditions, please note Summary Sheets in between the relevant Loading Conditions

Summary list	1
L-00 Light ship – No supply	2
L-01 Light Ballast – 100% Departure	10
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L-03 Heavy Ballast – 100% Departure	27
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L-05 Docking Condition – 10% Arrival (not sea going)	44
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L-11 Panama FW Transit with Cargo 0.80 t/m ³ – 100% Bunker	95
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L-17 Hold no. 1,3 and 5 with cargo 3.00 t/m ³ – 50% Departure Short Voyage....	146
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L-19 Steel Coils in all holds – 100% Departure	163
L-20 Steel Coils in all holds – 10% Arrival	172
L-21 Timber in all holds and as deck load – 100% Departure	180
L-22 Timber in all holds and as deck load – 10% Arrival	190

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DIAMOND 53
 SUMMARY OF
 LOADING CONDITIONS

DATE 2006-09-29
 TIME 10:47
 USER JAN
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LOADING AND STRENGTH INFORMATION

CASE	TEXT	DISP t	CARGO t	BUNKER t	BALLAST t	T(M) m	TRIM m	GM(F) m	SHMIN t	SHMAX t	BMMIN tm	BMMAX tm
L-00	LIGHT WEIGHT - NO SUPPLY	11044	0	0	0	2.63	3.96	22.43	-1319	1940	-25	78289
L-01	LIGHT BALLAST - DEP 100 %	28910	0	2441	15424	6.10	1.67	8.09	-2252	3732	-3	120996
L-02	LIGHT BALLAST - ARR 10 %	29249	0	392	17813	6.16	1.60	8.43	-2171	2392	-1	107837
L-03	HEAVY BALLAST - DEP 100 %	44203	0	2441	30718	8.93	1.82	4.91	-4473	3471	-108962	60686
L-04	HEAVY BALLAST - ARR 10 %	43703	0	392	32268	8.83	1.04	5.20	-4273	3744	-123982	43496
L-05	DOCKING KEEL - ARR 10 %	14848	0	392	3412	3.25	0.00	15.88	-2965	2531	0	130158
L-06	PROPELLER IMMERSION - ARR 10 %	22626	0	392	11191	4.64	-3.59	10.27	-1797	2523	-4	105985
L-07	HOMOGEN DESIGN - DEP 100 %	56439	40766	2441	2187	11.09	1.26	3.21	-1163	1132	-10540	43072
L-08	HOMOGEN DESIGN - ARR 10 %	53402	40766	392	1200	10.57	0.16	3.37	-393	819	-13316	7239
L-09	HOMOGEN SCANT - DEP 100 %	64772	51287	2441	0	12.54	1.70	2.97	-591	1056	-30511	1669
L-10	HOMOGEN SCANT - ARR 10 %	62722	51287	392	0	12.21	-0.16	2.97	-1551	1194	-53113	1248
L-11	C0.80 PANA FW - DEP 100 %	60007	46522	2441	0	12.02	0.00	3.58	-1470	997	-36121	18713
L-12	C0.80 PANA FW - DEP 10 %	59993	48557	392	0	12.02	0.00	3.57	-1242	1019	-56534	1890
L-13	C1.35 CH 1245 - DEP 100 %	64603	51118	2441	0	12.52	1.14	4.76	-4447	4062	-9409	164629
L-14	C1.35 CH 1245 - ARR 10 %	63212	51118	392	658	12.30	0.01	4.83	-4228	4059	-10120	151724
L-15	C3.00 CH 135 - DEP 100 %	64682	51196	2441	0	12.53	1.15	6.51	-4860	5119	-6670	143209
L-16	C3.00 CH 135 - ARR 10 %	63290	51196	392	658	12.31	0.03	6.61	-4684	4771	-6990	128796
L-17	C3.00 CH 135 - DEP 50 %	64539	52200	1295	0	12.52	0.61	6.56	-4694	5001	-8490	127361
L-18	C3.00 CH 135 - ARR 10 %	64046	52200	392	410	12.44	0.01	6.63	-4564	4970	-19592	121510
L-19	STEEL COILS - DEP 100 %	64236	50750	2441	0	12.47	0.39	8.16	-1407	1407	-54512	6790
L-20	STEEL COILS - ARR 10 %	64264	50750	392	2078	12.48	0.12	8.36	-1534	1503	-58997	8414
L-21	TIMBER LOAD - DEP 100 %	63437	46256	2441	3695	12.33	0.55	1.30	-1377	1346	-33560	7998
L-22	TIMBER LOAD - ARR 10 %	63666	47331	392	4899	12.37	0.10	1.27	-1710	1564	-63131	9102

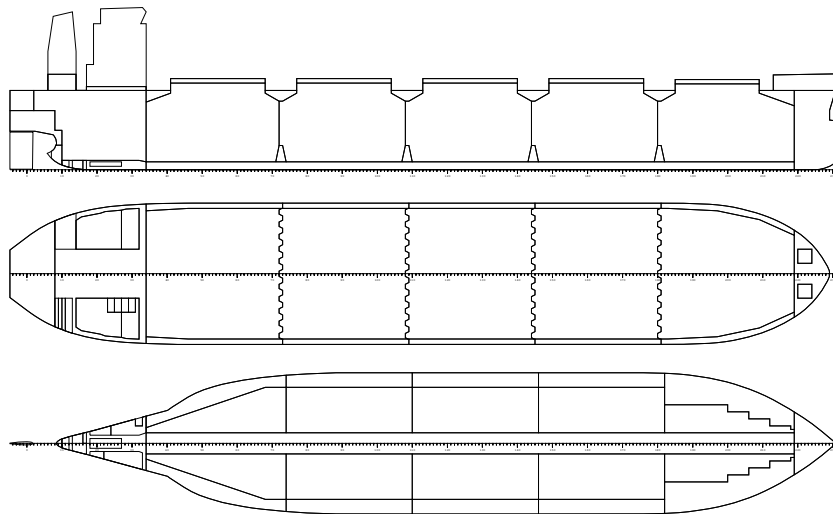
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-00, LIGHT WEIGHT - NO SUPPLY

FLOATING POSITION / calculation method: free trim

Displacement	11044 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	0.67 m		
Draught aft (below keel)	4.63 m		
Mean draught (below keel)	2.65 m	Trim	3.96 m
KM above the moulded base	34.28 m		
KG0 (solid)	11.85 m	GM0 (solid)	22.43 m
Free surface correction	0.00 m		0.00 m
KG (fluid)	11.85 m	GM (fluid)	22.43 m
Actual heel	0.00 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.775)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		0.0		0.00	0.00	0.00	0

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DIAMOND 53
 CONDITION L-00
 INTACT STABILITY

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	0
DOSER1	NO.1 DO SERVICE TANK	0.0	0	15.20	-7.19	15.75	0
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	0.0	0	13.60	-7.19	15.75	0

SUBTOTAL		0.0		0.00	0.00	0.00	0
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	0.0	0	-0.81	8.22	15.85	0
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	0

SUBTOTAL		0.0		0.00	0.00	0.00	0
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	0.0	0	17.92	9.46	12.38	0
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	0
HOSER1	NO.1 HFO SERVICE TANK	0.0	0	22.40	-7.19	13.50	0
HOSER2	NO.2 HFO SERVICE TANK	0.0	0	20.80	-7.19	13.50	0
HOSET1	NO.1 HFO SETTLLING TANK	0.0	0	24.00	-7.19	13.50	0
HOSET2	NO.2 HFO SETTLLING TANK	0.0	0	19.20	-7.19	13.50	0
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		0.0		0.00	0.00	0.00	0
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	0.0	0	6.81	-8.43	11.77	0
LOST2	NO.2 LO STORE TK	0.0	0	7.61	-8.57	11.69	0
CYL1	NO.1 CYL OIL TK	0.0	0	8.40	-8.72	11.63	0
CYL2	NO.2 CYL OIL TK	0.0	0	9.62	-8.94	11.56	0
SUMP	LO SUMP TANK	0.0	0	18.00	0.00	1.31	0
LOAUX1	NO.1 LO A/E TANK	0.0	0	2.00	-3.20	15.65	0
LOAUX2	NO.2 LO A/E TANK	0.0	0	2.00	-4.80	15.65	0
LOS	LO STERN TUBE TK	0.0	0	1.20	2.90	14.80	0
CYLS1	NO.1 CYL OIL SERV. TK	0.0	0	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.0	0	26.20	3.60	14.50	0

SUBTOTAL		0.0		0.00	0.00	0.00	0
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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DIAMOND 53
 CONDITION L-00
 INTACT STABILITY

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Misc Water (RHO=1)							
STC	S/T COOLING	0.0	0	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	0
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	0.0	0.00	0.00	0.00
Total weight	11044.1	84.08	0.00	11.85

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DIAMOND 53
CONDITION L-00
INTACT STABILITY

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 2.07

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 18.40 M

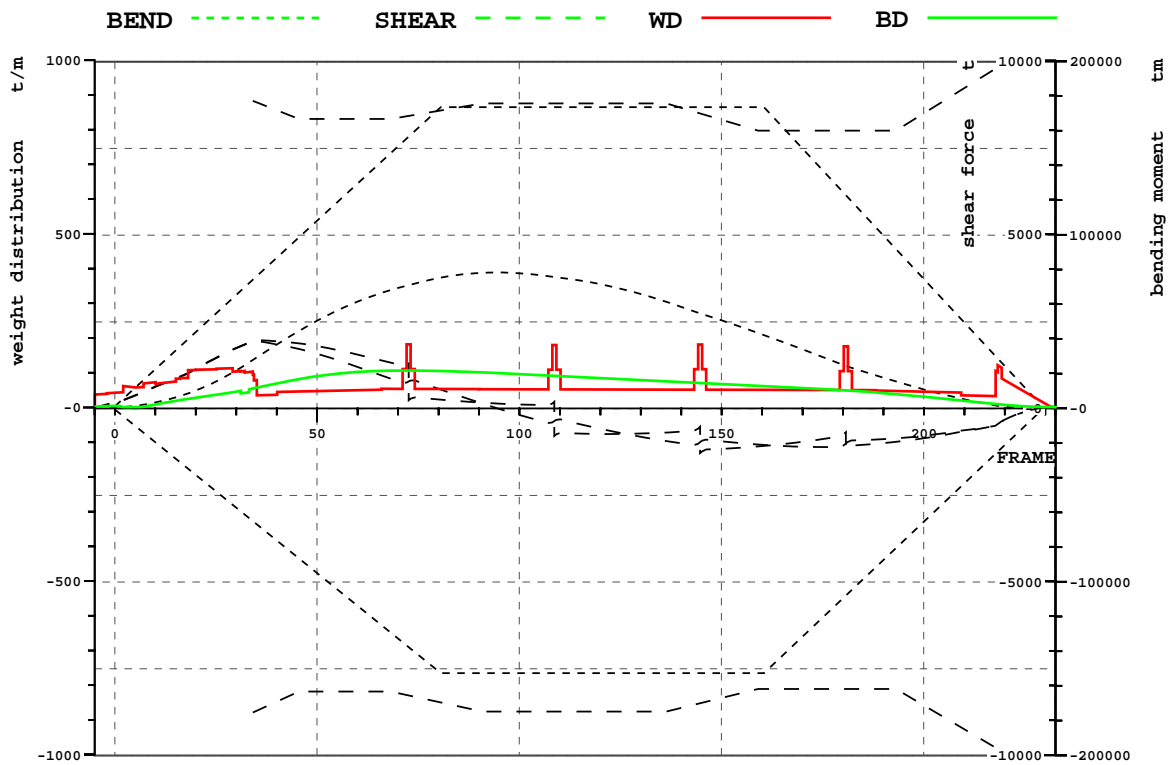
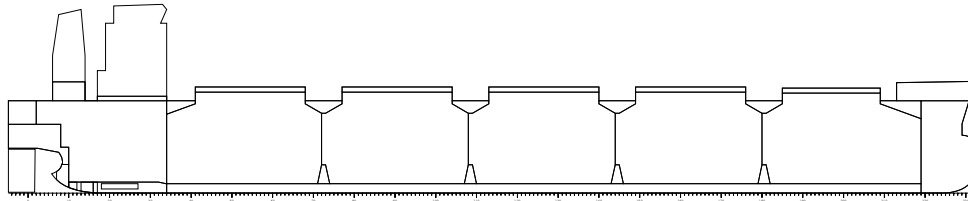
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 18.00 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 17.38 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 16.76 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 16.14 M

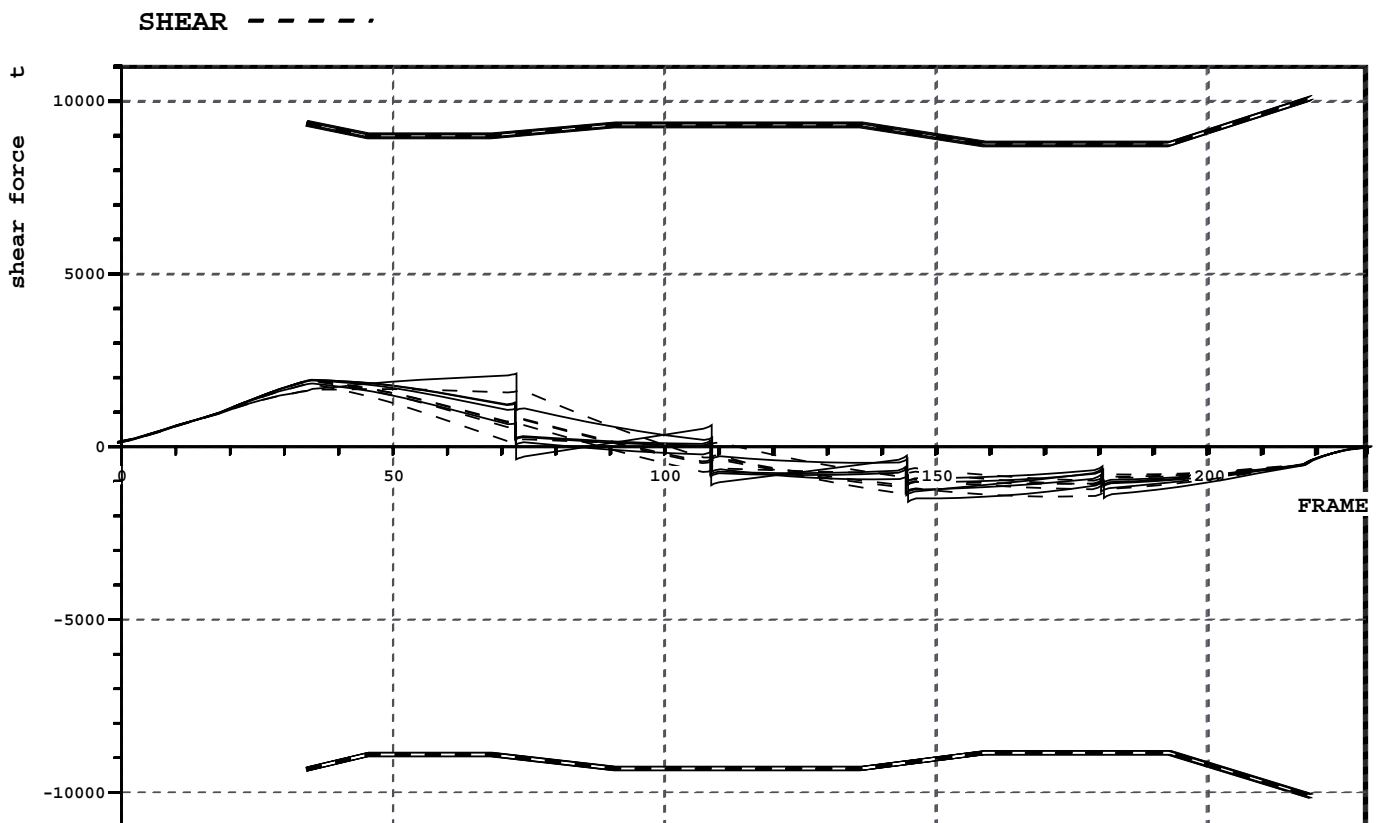
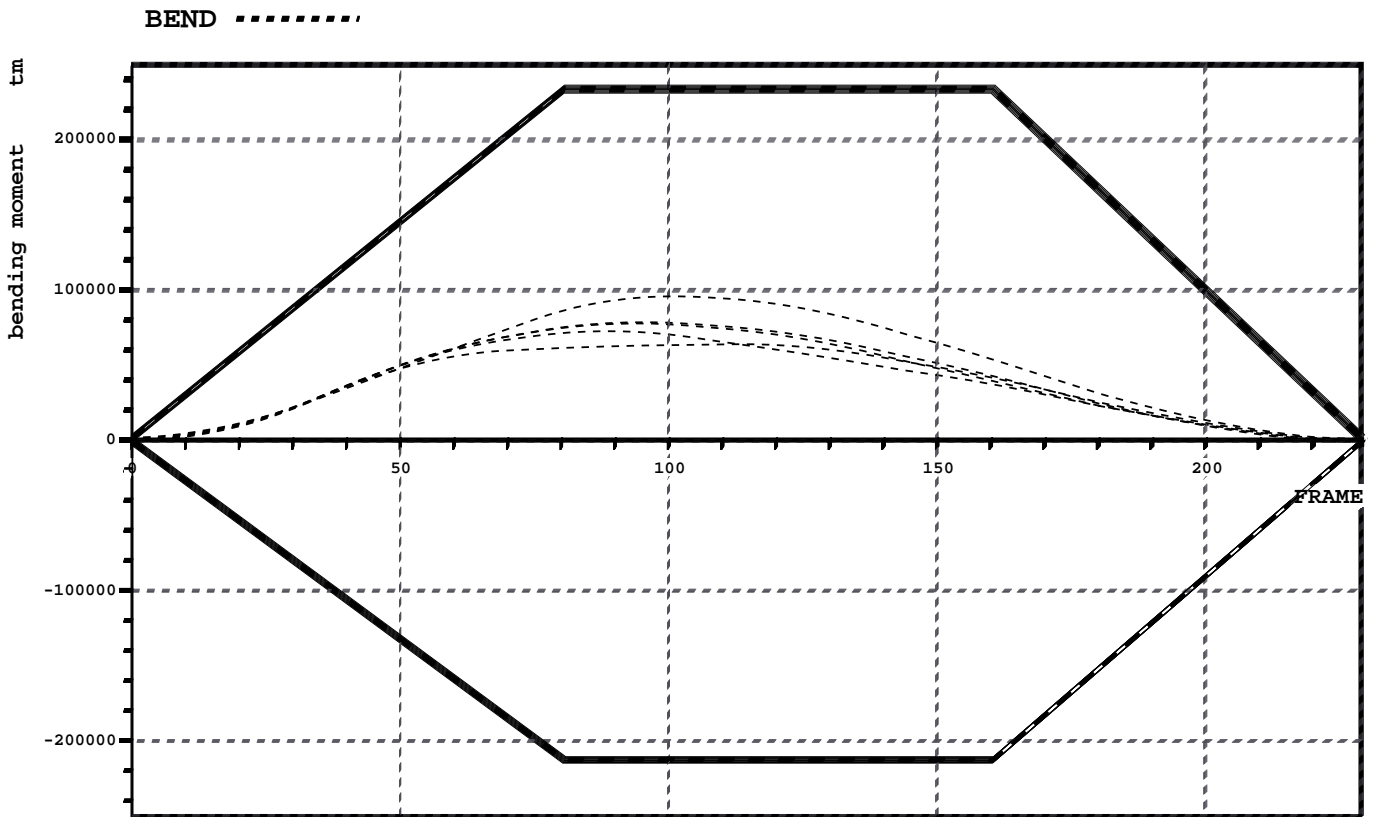
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-1318.7 t	(15.5%)	115.6 m	145
SHEAR FORCE (MAX,CORR)	1940.4 t	(22.1%)	28.0 m	35
SAGGING MOMENT	-25.3 tm	(2.5%)	183.5 m	229
HOGGING MOMENT	78289.3 tm	(45.2%)	75.7 m	95

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	27648	73770	-8786	1905	1905	8830
72.50	-137807	70879	156169	-8294	756	1265	8395
72.50	-137811	70880	156173	-8294	756	207	8395
108.50	-152905	75632	173293	-8758	-385	165	8758
108.50	-152905	75632	173293	-8758	-384	-821	8758
144.50	-152905	54764	173293	-8517	-994	-557	8468
144.50	-152905	54762	173293	-8517	-994	-1319	8467
180.50	-108361	24591	122770	-8106	-1038	-713	7971
180.50	-108357	24589	122765	-8106	-1038	-1206	7971
219.00	-23246	1183	26231	-9904	-392	-392	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1329.3 t (14.5%)	POSITION:	115.6 m	145
SHEAR FORCE (MAX,CORR)	1951.6 t (20.9%)		28.0 m	35
SAGGING MOMENT	-23.1 tm (2.3%)		183.5 m	229
HOGGING MOMENT	79664.1 tm (34.2%)		76.1 m	95

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1399.3 t (15.3%)	POSITION:	115.6 m	145
SHEAR FORCE (MAX,CORR)	1944.0 t (20.8%)		28.0 m	35
SAGGING MOMENT	-23.9 tm (2.4%)		183.5 m	229
HOGGING MOMENT	78207.5 tm (33.5%)		75.4 m	94

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1122.8 t (12.1%)	POSITION:	86.8 m	109
SHEAR FORCE (MAX,CORR)	1913.5 t (20.5%)		28.0 m	35
SAGGING MOMENT	-24.4 tm (2.4%)		183.5 m	229
HOGGING MOMENT	72461.3 tm (31.1%)		70.9 m	89

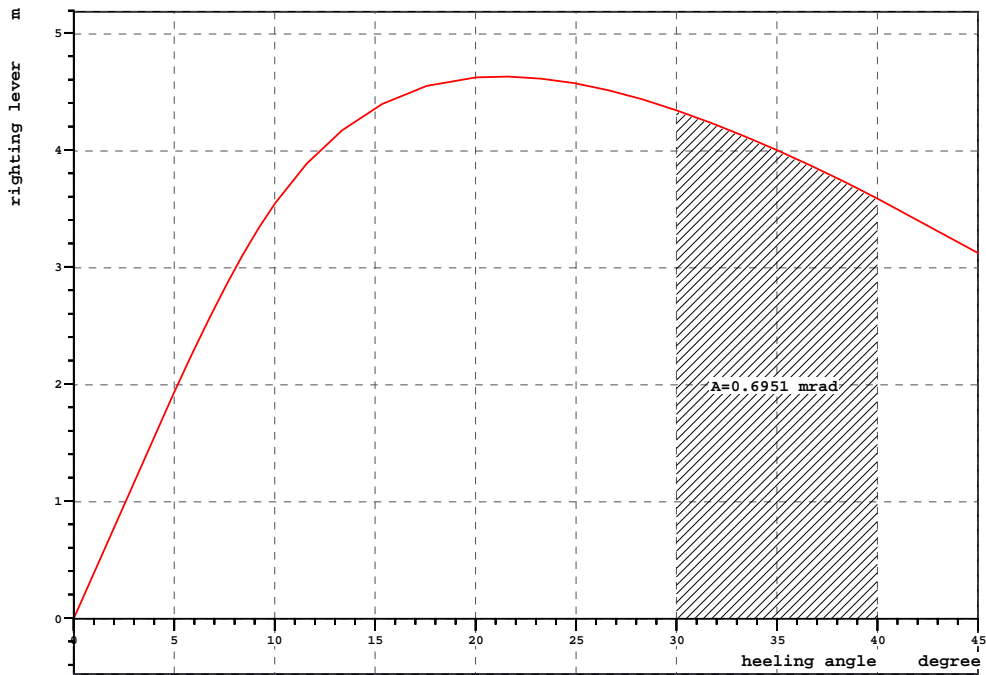
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1166.8 t (13.2%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	1814.8 t (19.5%)		28.0 m	35
SAGGING MOMENT	-31.7 tm (2.1%)		183.1 m	229
HOGGING MOMENT	63269.3 tm (27.1%)		90.8 m	113

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1616.0 t (17.7%)	POSITION:	115.6 m	145
SHEAR FORCE (MAX,CORR)	2092.8 t (23.1%)		58.0 m	73
SAGGING MOMENT	-49.0 tm (1.7%)		182.8 m	228
HOGGING MOMENT	94479.5 tm (40.5%)		80.6 m	101

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.864	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	2.559	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.695	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.336	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	21.241	deg	NOT M.
GM0.15	GM > 0.15 m	0.150	22.434	m	OK
IMOWEATHER	IMO weather criterion	1.000	0.849		NOT M.
GMD	GM > 1.20 m ref. damage stability	1.200	22.434	m	OK

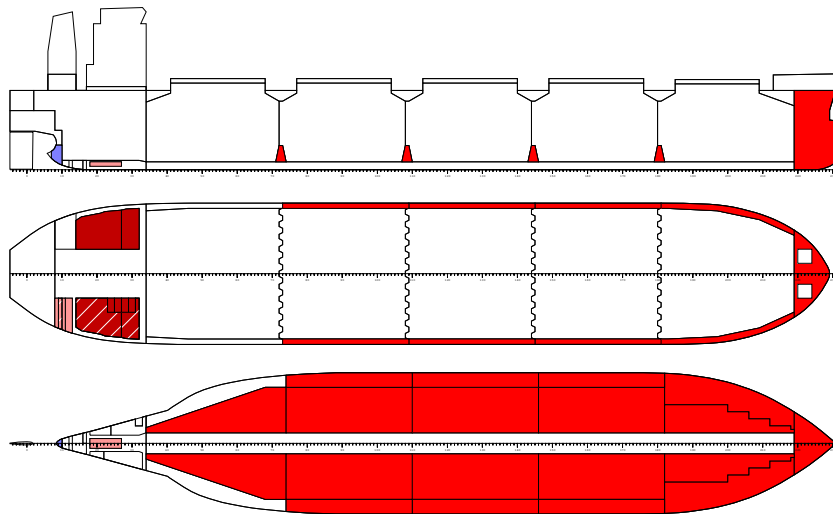
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-01, LIGHT BALLAST - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	28910 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	5.29 m		
Draught aft (below keel)	6.96 m		
Mean draught (below keel)	6.12 m	Trim	1.67 m
KM above the moulded base	17.40 m		
KG0 (solid)	8.91 m	GM0 (solid)	8.49 m
Free surface correction	0.40 m		-0.40 m
KG (fluid)	9.31 m	GM (fluid)	8.09 m
Actual heel	-0.68 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.775)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		0.0		0.00	0.00	0.00	0

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DIAMOND 53
 CONDITION L-01
 INTACT STABILITY

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	1035.0	100	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	1023.1	100	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	1023.1	100	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	446.0	100	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	446.0	100	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	387
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	387
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		15424.5		118.90	-0.00	6.17	9314

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	17865.9	105.02	-0.17	7.10
Total weight	28910.0	97.02	-0.11	8.91

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.35

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 14.10 M

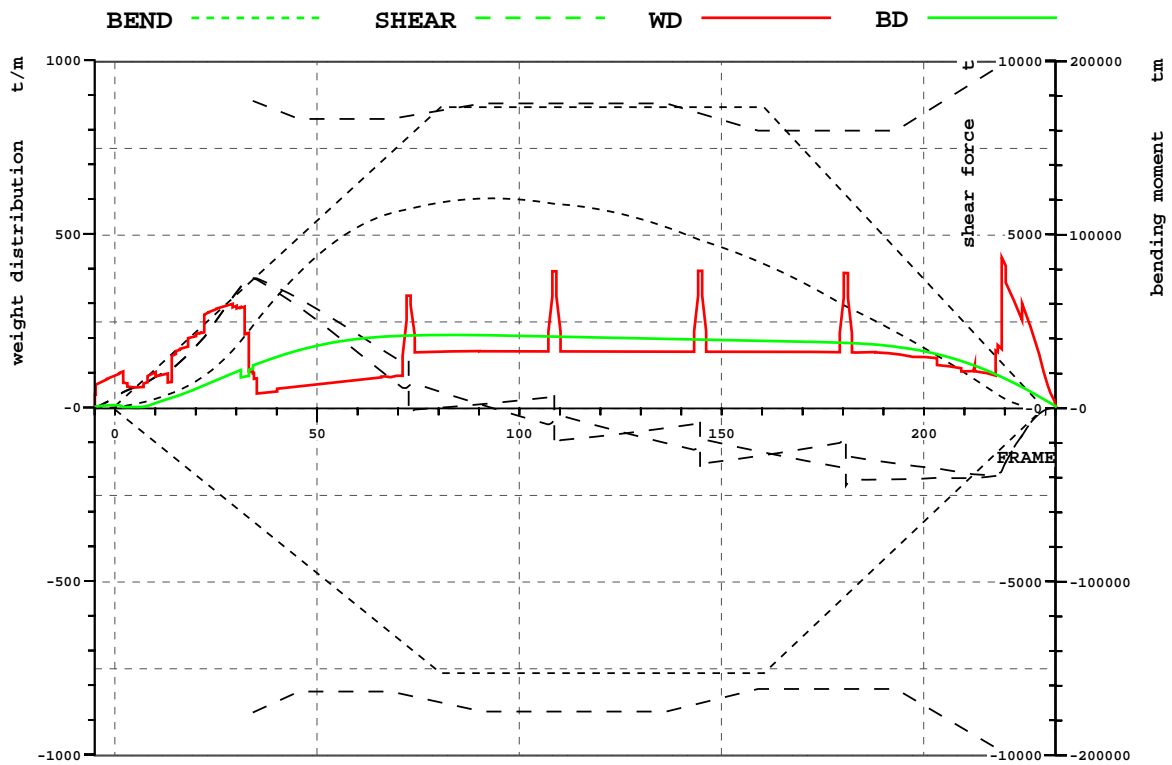
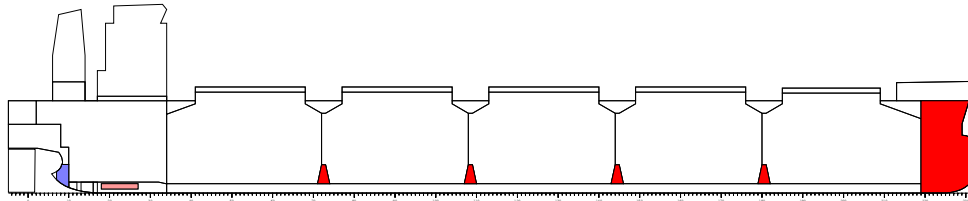
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 14.05 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 13.79 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 13.52 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 13.26 M

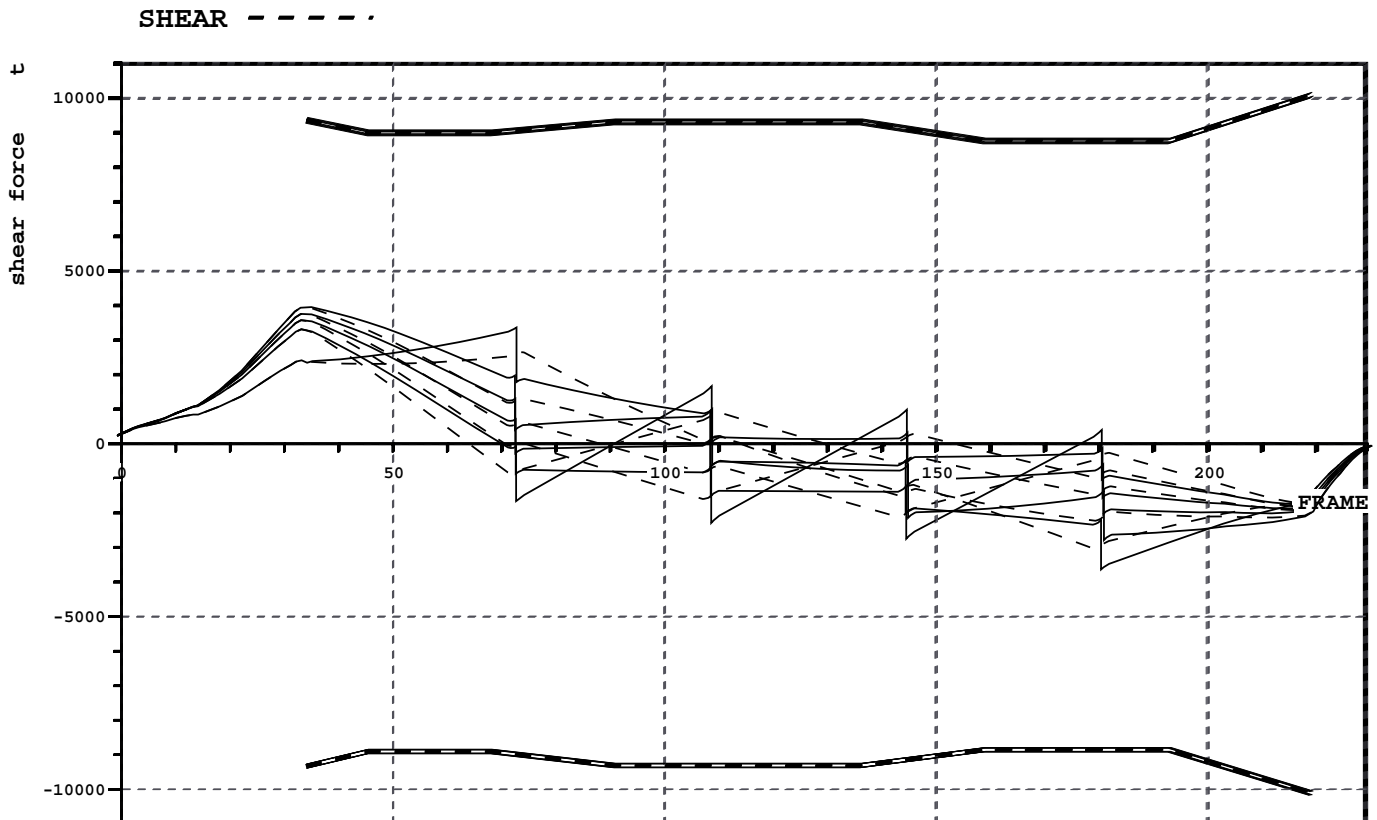
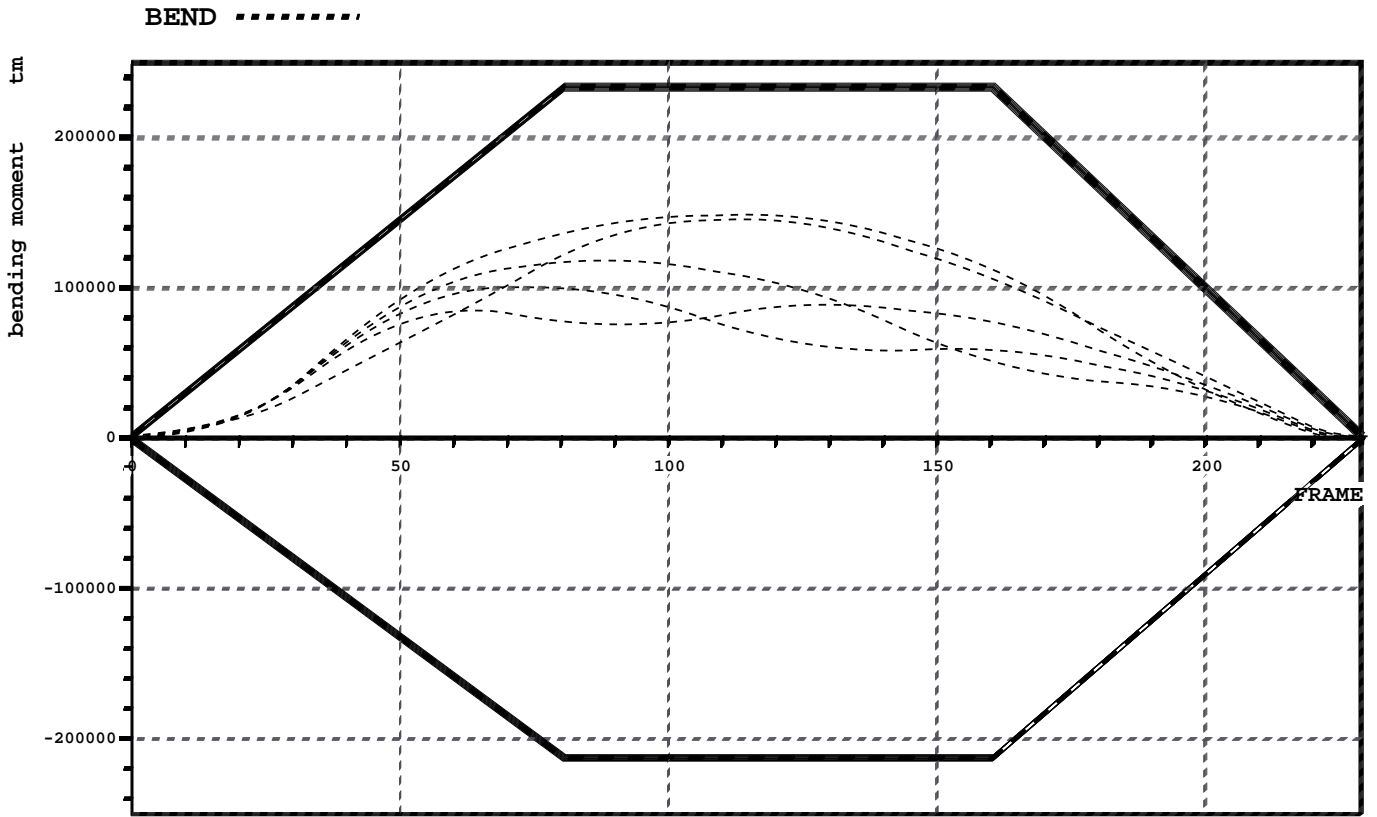
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-2252.2 t	(27.8%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	3732.3 t	(42.3%)	26.4 m	33
SAGGING MOMENT	-2.7 tm	(0.3%)	185.3 m	232
HOGGING MOMENT	120996.0 tm	(69.8%)	74.6 m	93

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	47254	73770	-8786	3728	3728	8830
72.50	-137807	114761	156169	-8294	621	1363	8395
72.50	-137811	114762	156173	-8294	621	-215	8395
108.50	-152905	117872	173293	-8758	-350	487	8758
108.50	-152905	117872	173293	-8758	-350	-1140	8758
144.50	-152905	97116	173293	-8517	-1066	-276	8468
144.50	-152905	97114	173293	-8517	-1065	-1808	8467
180.50	-108361	59070	122770	-8106	-1559	-817	7971
180.50	-108357	59067	122765	-8106	-1559	-2252	7971
219.00	-23246	6833	26231	-9904	-1847	-1847	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3626.5 t (41.0%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	3969.4 t (42.6%)		28.0 m	35
SAGGING MOMENT	-1.9 tm (0.2%)		-3.8 m	-5
HOGGING MOMENT	149978.1 tm (64.3%)		91.5 m	114

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2749.1 t (30.1%)	POSITION:	115.6 m	145
SHEAR FORCE (MAX,CORR)	3761.1 t (40.2%)		26.4 m	33
SAGGING MOMENT	-0.7 tm (0.1%)		-3.8 m	-5
HOGGING MOMENT	118818.0 tm (51.0%)		70.5 m	88

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2295.9 t (24.7%)	POSITION:	86.8 m	109
SHEAR FORCE (MAX,CORR)	3571.5 t (38.2%)		26.4 m	33
SAGGING MOMENT	-0.1 tm (0.0%)		-3.8 m	-5
HOGGING MOMENT	100483.0 tm (49.1%)		56.5 m	71

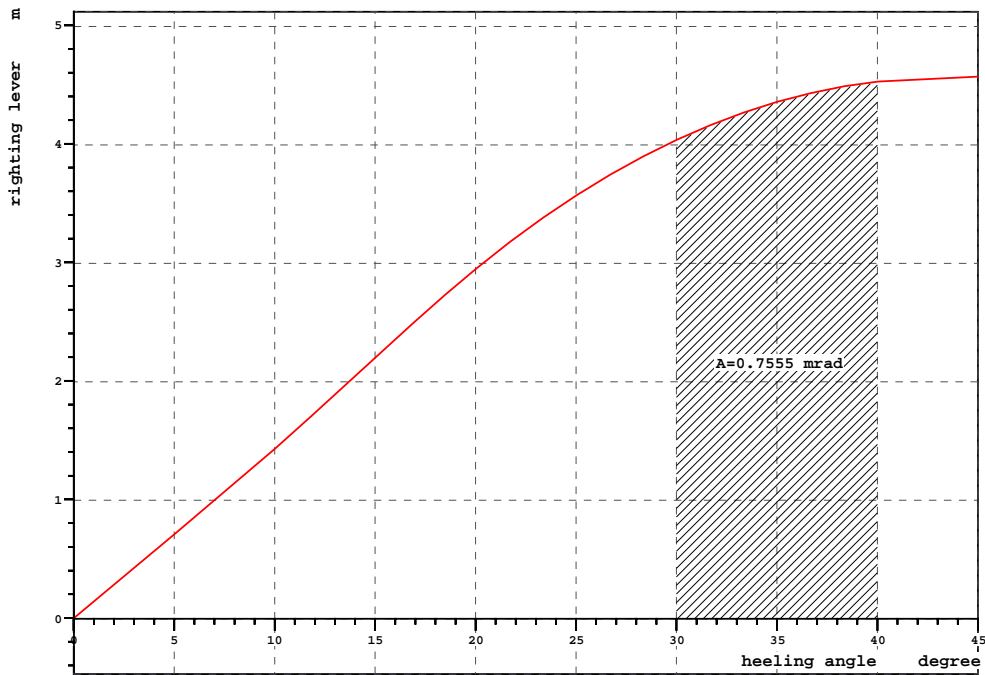
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2049.7 t (23.2%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	3297.0 t (35.2%)		26.4 m	33
SAGGING MOMENT	-0.6 tm (0.1%)		185.6 m	232
HOGGING MOMENT	88165.3 tm (37.8%)		103.4 m	129

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2810.1 t (31.7%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	3335.6 t (36.8%)		58.0 m	73
SAGGING MOMENT	-5.8 tm (0.6%)		185.3 m	232
HOGGING MOMENT	144328.4 tm (61.9%)		90.8 m	113

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.125	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.880	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.756	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.567	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	8.093	m	OK
IMOWEATHER	IMO weather criterion	1.000	2.678		OK
GMD	GM > 1.20 m ref. damage stability	1.200	8.093	m	OK

		FUEL TANK OPERATIONS										BALLAST OPERATIONS								
		DO deep tank S	DO serv and sett	FW tanks	HFO 1 P & S	HFO 2 P & S	HFO serv & sett	LO tanks	Misc oil	Misc water	Total tanks		APT	BW No. 5	BW No. 4	BW No. 3	BW No. 2	BW No. 1	FPT	Total BW tanks
		ton	ton	ton	ton	ton	ton	ton	ton	ton	ton		ton	ton	ton	ton	ton	ton	ton	ton
Dep. condition		138,7	56,4	239,1	723,7	937,9	168,4	113,5	0,0	8,8	2.386,5	WT	0	0	2.046	2.070	2.067	2.187		
												DB		892	1.246	1.246	1.246	503	1.921	15.424
STEP 1	Change	-30,0		-61,1	-428,7			-42,4	4,1	45,0	-513,1	WT	Change							
	Total	108,7	56,4	178,0	295,0	937,9	168,4	71,1	4,1	53,8	1873,4	DB	Total		2.046	2.070	2.067	2.187	1.921	15.424
STEP 2	Change										0,0	WT	Change		1.200					
	Total	108,7	56,4	178,0	295,0	937,9	168,4	71,1	4,1	53,8	1873,4	DB	Total		1.200	2.046	2.070	2.067	2.187	1.921
STEP 3	Change	-108,7	-27,6	-163,0	-295,0	-321,5		-38,8	4,0	45,1	-905,5	WT	Change							
	Total	0,0	28,8	15,0	0,0	616,4	168,4	32,3	8,1	98,9	967,9	DB	Total		1.200	2.046	2.070	2.067	2.187	1.921
STEP 4	Change										0,0	WT	Change	500	531					
	Total	0,0	28,8	15,0	0,0	616,4	168,4	32,3	8,1	98,9	967,9	DB	Total	500	1.731	2.046	2.070	2.067	2.187	1.921
STEP 5	Change					-416,4					-416,4	WT	Change							
	Total	0,0	28,8	15,0	0,0	200,0	168,4	32,3	8,1	98,9	551,5	DB	Total	500	1.731	2.046	2.070	2.067	2.187	1.921
STEP 6	Change										0,0	WT	Change	158						
	Total	0,0	28,8	15,0	0,0	200,0	168,4	32,3	8,1	98,9	551,5	DB	Total	658	1.731	2.046	2.070	2.067	2.187	1.921
Arr. condition		0,0	25,0	15,0	0,0	20,0	168,4	11,3	8,1	98,9	346,7	WT		658	1.731	2.046	2.070	2.067	2.187	1.921
												DB			892	1.246	1.246	1.246	503	17.813

SUMMARY OF BALLASTING OPERATIONS DURING VOYAGE										CONDITION DRAUGHTS AND LONG. STRENGTH										
Name	Class ID		Initial condition:		Final condition:		L*01			L*02			Dep. condition	d aft (m)	Trim (m)	d fwd (m)	Intact		Flooding	
	Cond. no. L*01	ton	Cond. no. L*02	ton										S.F. (%)	B.M. (%)	S.F. (%)	B.M. (%)			
Lightweight	11.044,1	ton	11.044,1	ton									6,96	1,67	5,29	42,30	69,80	42,60	64,30	
Cargo	0,0	ton	0	ton									6,50	1,00	5,50	37,80	63,40	40,40	60,60	
Crew, stores	55	ton	45	ton									7,33	2,12	5,20	35,60	68,40	41,20	64,30	
Fuel etc	2.387	ton	347	ton									6,50	0,90	5,61	28,00	55,70	40,00	57,10	
Ballast	15.424	ton	17.813	ton									7,38	2,17	5,20	31,30	67,40	41,20	63,90	
Displacement	28.910	ton	29.249	ton									7,02	1,64	5,38	28,20	62,10	40,70	60,80	
													7,17	1,88	5,29	29,30	65,10	40,90	62,50	
													Arr. Condition	6,99	1,60	5,38	27,70	62,20	40,70	60,90

NOTES:
 At each step in the ballasting operation the allowable hull girder shear force and bending moment must not be exceeded.
 For other initial conditions or if another ballasting sequence is chosen, the vessels loadcomputer can be used to simulate the proces to make sure that strength is not exceeded during the operation.
Reference:
 CB40.3580.11/055-01: Preliminary Stability Manual - M/S Bulkcarrier

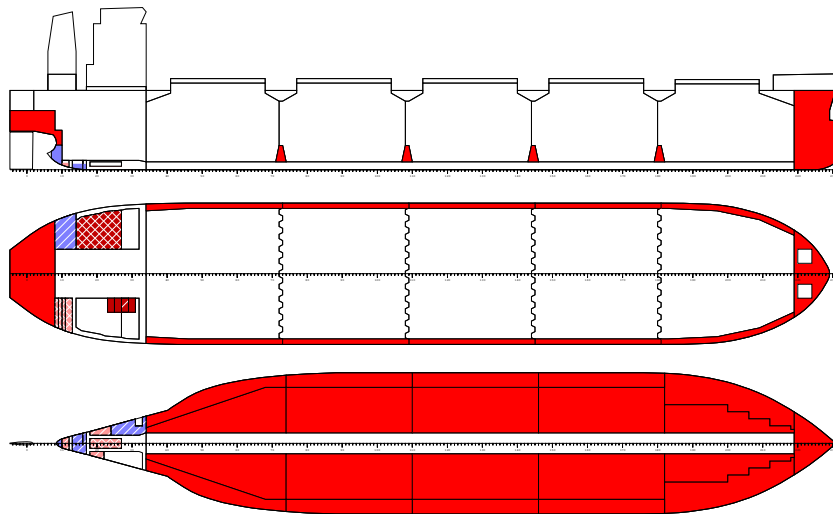
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-02, LIGHT BALLAST - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	29249 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	5.38 m		
Draught aft (below keel)	6.99 m		
Mean draught (below keel)	6.19 m	Trim	1.60 m
KM above the moulded base	17.29 m		
KG0 (solid)	8.48 m	GM0 (solid)	8.81 m
Free surface correction	0.38 m		-0.38 m
KG (fluid)	8.86 m	GM (fluid)	8.43 m
Actual heel	-0.07 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.775)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	1035.0	100	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	1023.1	100	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	1023.1	100	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	446.0	100	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	446.0	100	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	865.3	100	41.00	12.97	5.76	387
WT5S	NO.5 WT BALLAST S	865.3	100	41.00	-12.97	5.76	387
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	8540

SUBTOTAL		17813.2		107.03	0.00	6.32	9314

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	18204.8	105.09	-0.03	6.44
Total weight	29248.9	97.16	-0.02	8.48

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.33

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 14.01 M

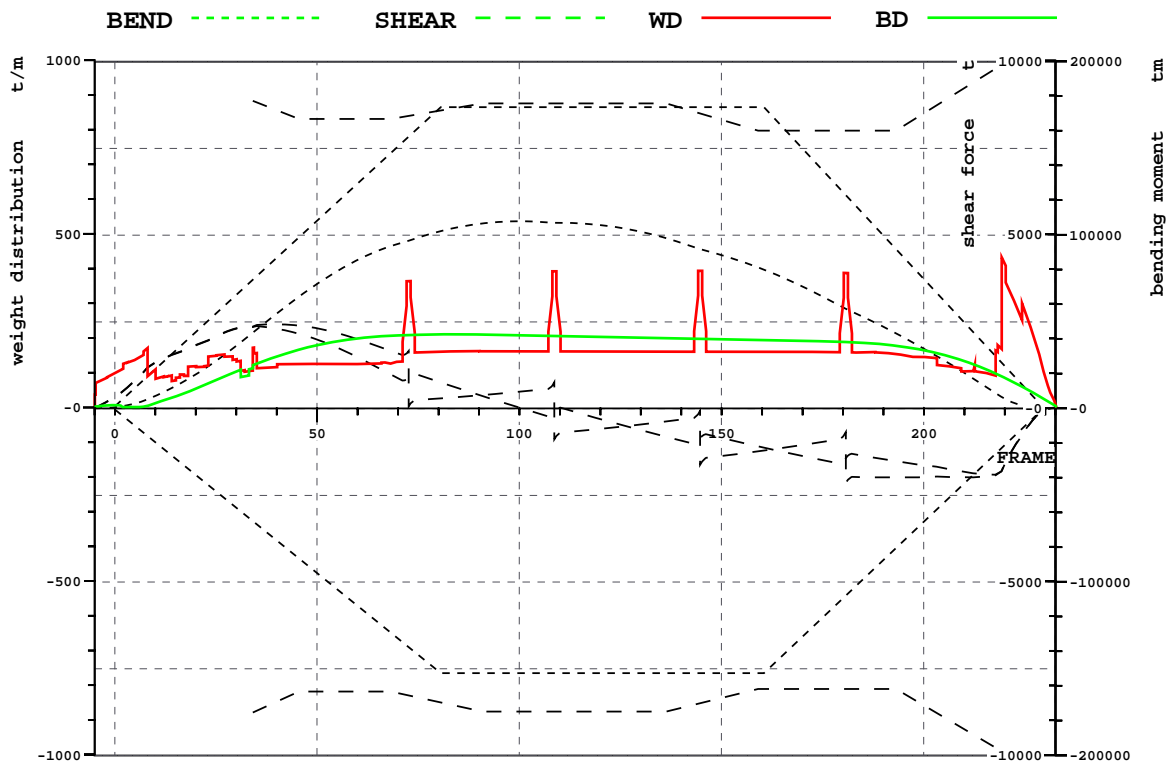
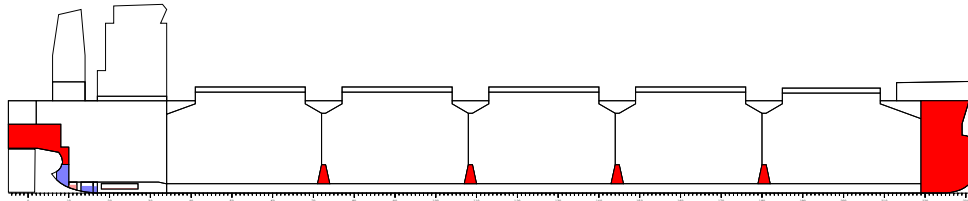
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 13.97 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 13.72 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 13.47 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 13.22 M

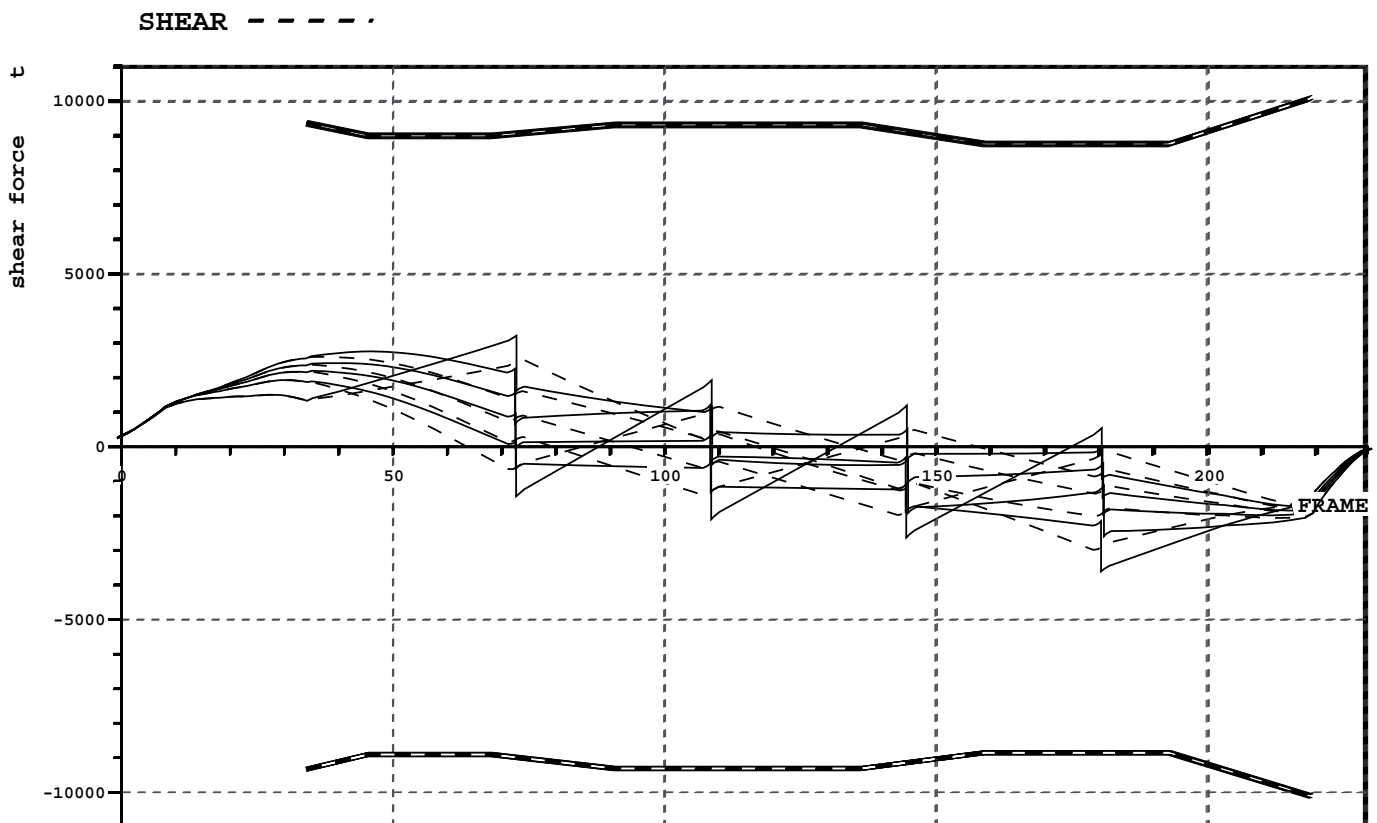
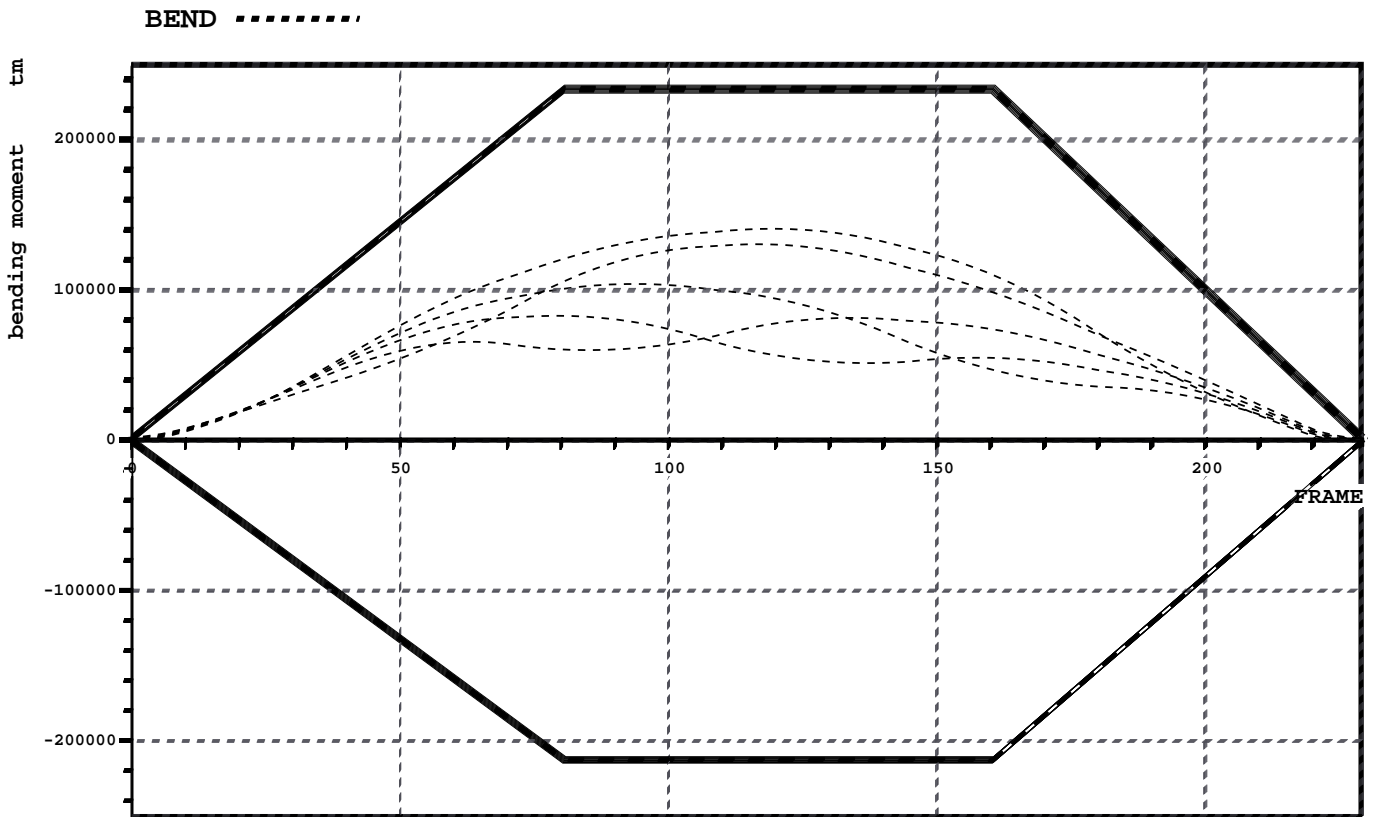
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-2170.5 t	(26.8%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2392.1 t	(27.7%)	30.7 m	38
SAGGING MOMENT	-1.1 tm	(0.1%)	185.6 m	232
HOGGING MOMENT	107836.9 tm	(62.2%)	80.2 m	100

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	43426	73770	-8786	2327	2327	8830
72.50	-137807	96470	156169	-8294	878	1626	8395
72.50	-137811	96471	156173	-8294	878	31	8395
108.50	-152905	106943	173293	-8758	-119	728	8758
108.50	-152905	106943	173293	-8758	-119	-920	8758
144.50	-152905	91869	173293	-8517	-898	-97	8468
144.50	-152905	91867	173293	-8517	-898	-1654	8467
180.50	-108361	57530	122770	-8106	-1465	-709	7971
180.50	-108357	57528	122765	-8106	-1465	-2171	7971
219.00	-23246	6809	26231	-9904	-1834	-1834	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3599.1 t (40.7%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	2774.3 t (30.8%)		36.5 m	46
SAGGING MOMENT	-2.3 tm (0.2%)		-3.5 m	-4
HOGGING MOMENT	141917.7 tm (60.9%)		95.6 m	120

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2625.5 t (28.7%)	POSITION:	115.6 m	145
SHEAR FORCE (MAX,CORR)	2426.2 t (26.3%)		30.7 m	38
SAGGING MOMENT	-1.1 tm (0.1%)		-3.8 m	-5
HOGGING MOMENT	104538.0 tm (44.8%)		75.0 m	94

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2104.4 t (22.6%)	POSITION:	86.8 m	109
SHEAR FORCE (MAX,CORR)	2187.9 t (23.5%)		28.0 m	35
SAGGING MOMENT	-0.6 tm (0.1%)		-3.8 m	-5
HOGGING MOMENT	82695.5 tm (36.0%)		63.5 m	79

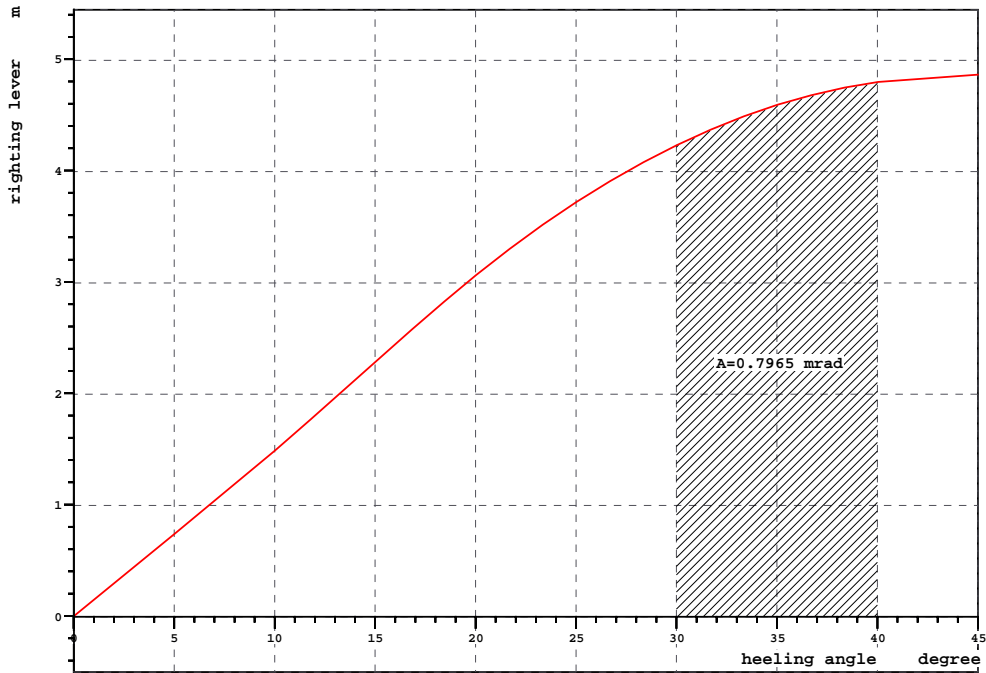
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1998.7 t (20.5%)	POSITION:	169.2 m	212
SHEAR FORCE (MAX,CORR)	1914.6 t (20.5%)		24.0 m	30
SAGGING MOMENT	-			
HOGGING MOMENT	80706.1 tm (34.6%)		107.2 m	134

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2611.9 t (29.5%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	3188.0 t (35.2%)		58.0 m	73
SAGGING MOMENT	-1.4 tm (0.1%)		185.6 m	232
HOGGING MOMENT	129086.0 tm (55.4%)		93.0 m	116

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.172	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.968	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.796	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.861	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	8.430	m	OK
IMOWEATHER	IMO weather criterion	1.000	2.802		OK
GMD	GM > 1.20 m ref. damage stability	1.200	8.430	m	OK

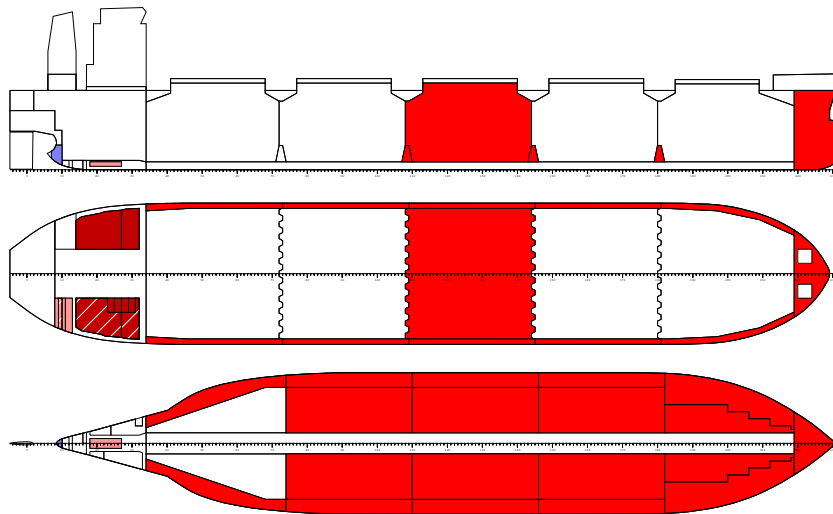
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-03, HEAVY BALLAST - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	44203 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	8.04 m		
Draught aft (below keel)	9.86 m		
Mean draught (below keel)	8.95 m	Trim	1.82 m
KM above the moulded base	14.61 m		
KG0 (solid)	9.46 m	GM0 (solid)	5.15 m
Free surface correction	0.24 m		-0.24 m
KG (fluid)	9.70 m	GM (fluid)	4.91 m
Actual heel	-0.73 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.775)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	13682.5	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		13682.5		101.22	0.00	10.21	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	1035.0	100	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	1023.1	100	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	1023.1	100	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	865.3	100	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	865.3	100	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	386.0	100	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	386.0	100	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		17035.1		111.17	-0.00	6.81	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	33158.9	100.16	-0.09	8.67
Total weight	44203.0	96.14	-0.07	9.46

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.15

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 11.33 M

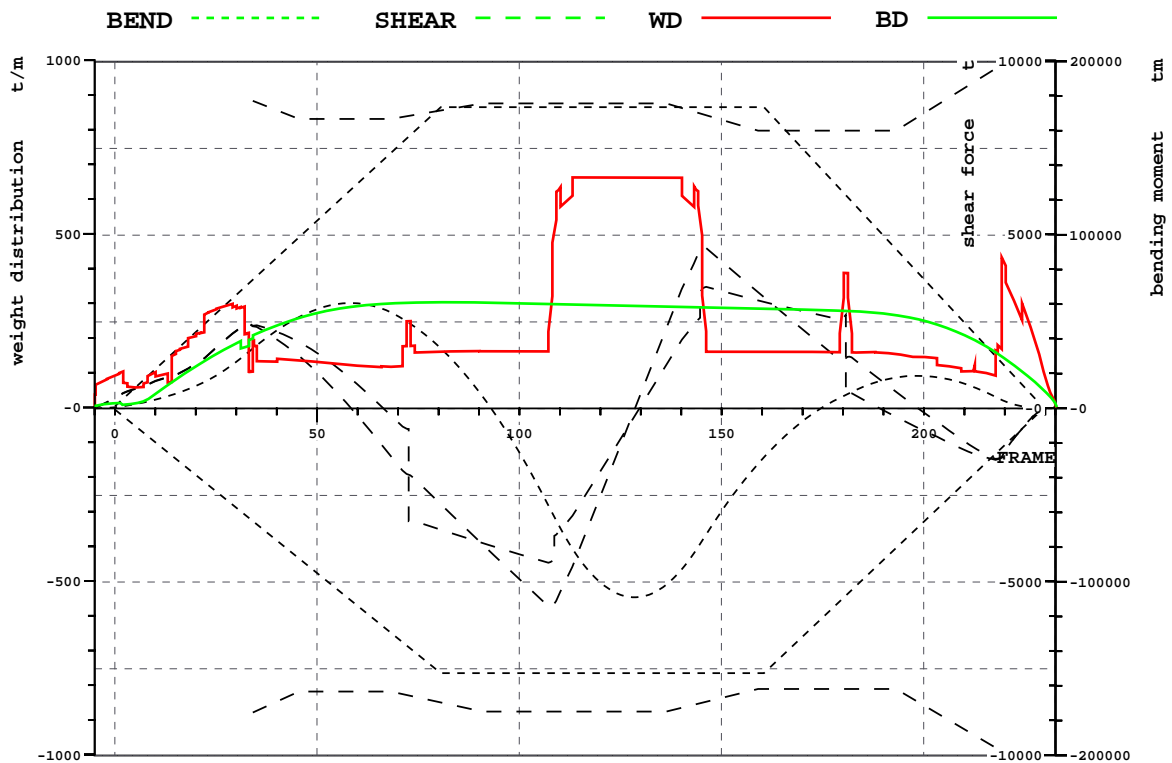
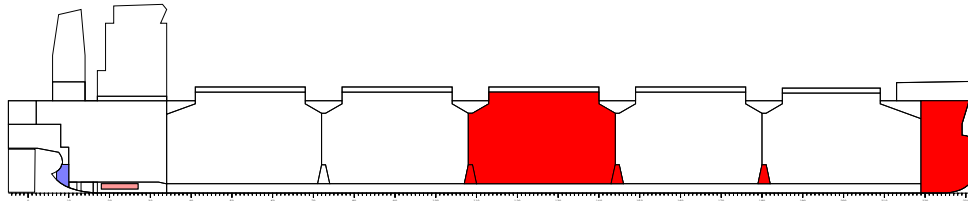
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 11.25 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 10.97 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 10.68 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 10.39 M

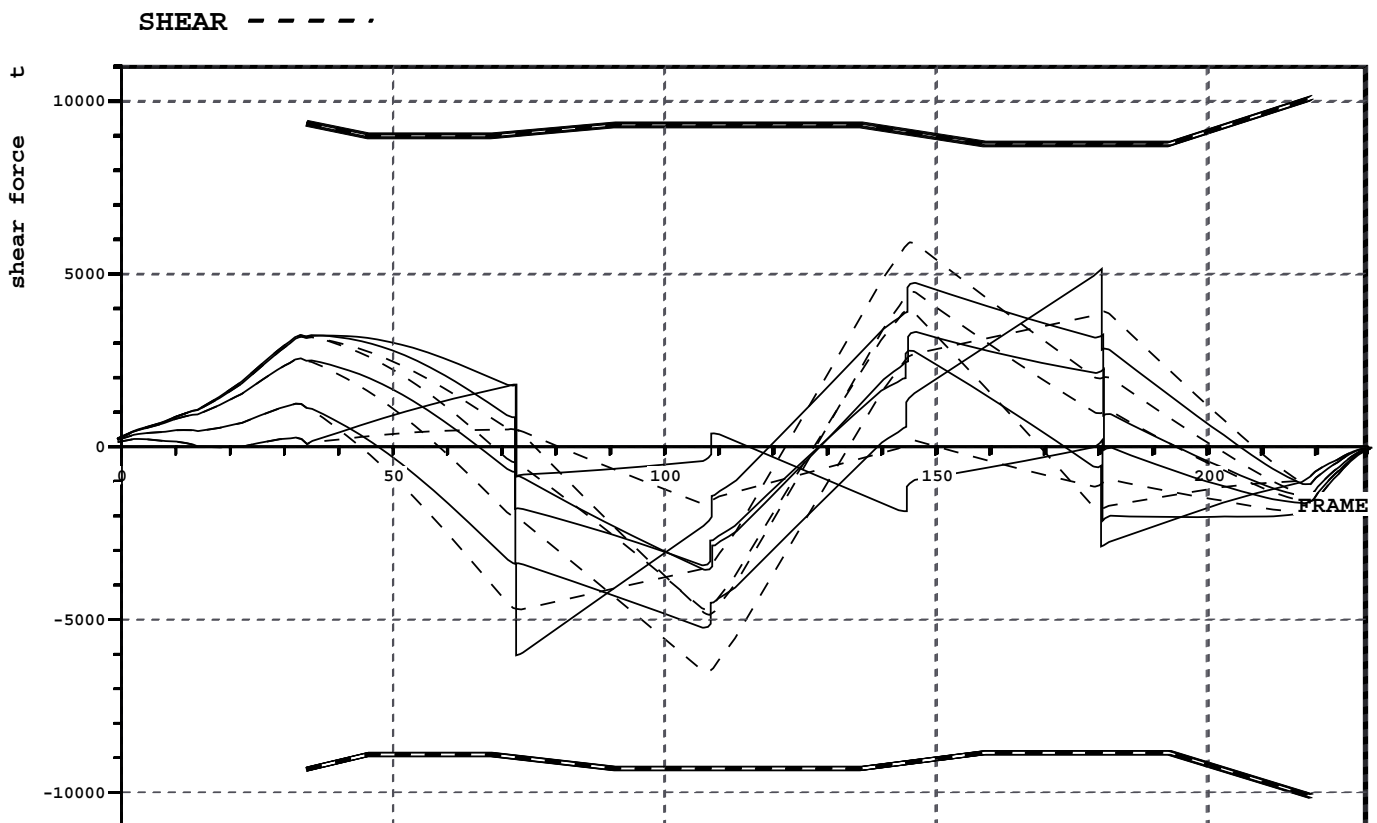
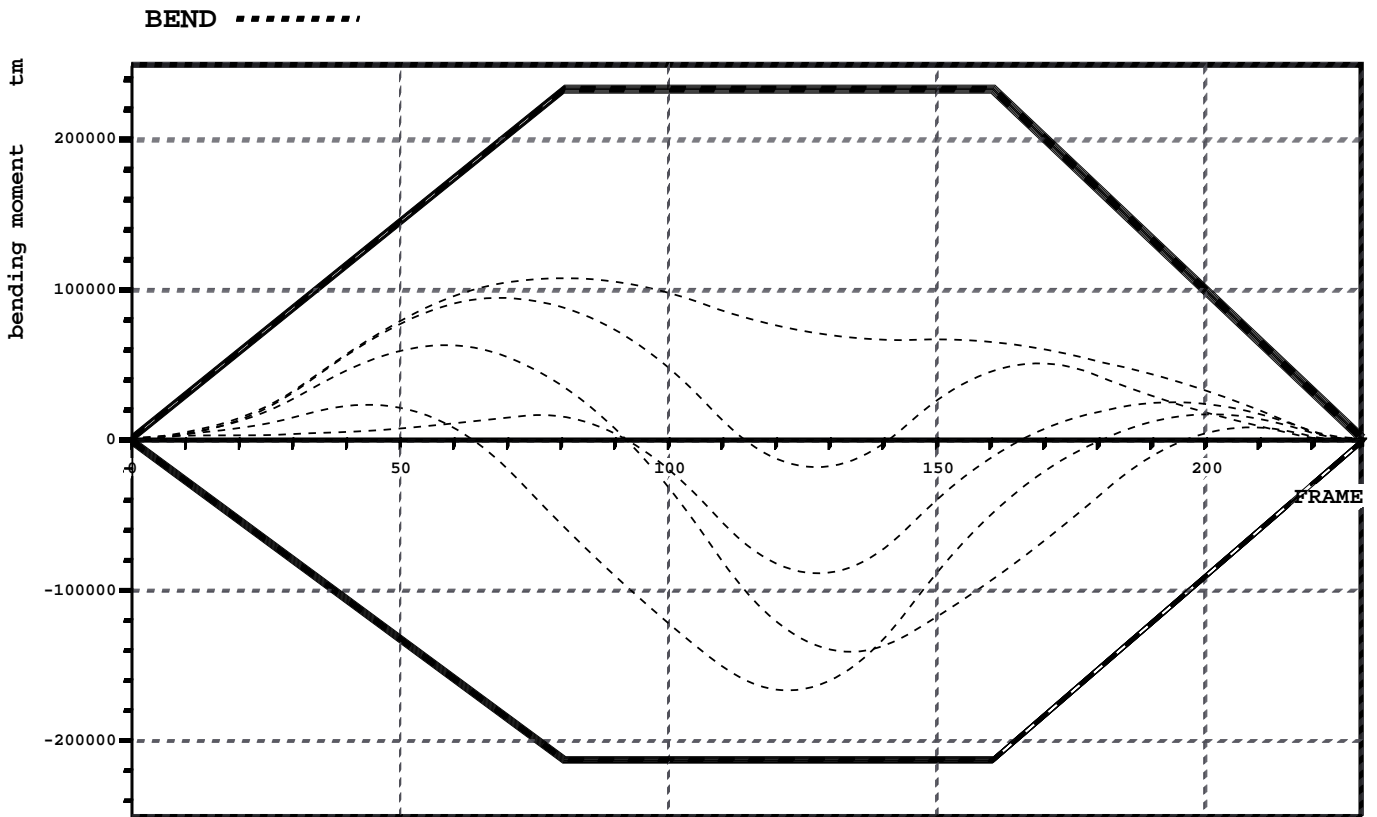
CHECK OF LONGITUDINAL STRENGTH



				X	FRAME
SHEAR FORCE (MIN,CORR)	-4472.7 t	(51.1%)	POSITION:	85.6 m	107
SHEAR FORCE (MAX,CORR)	3470.7 t	(41.2%)		116.8 m	146
SAGGING MOMENT	-108962 tm	(71.3%)		102.7 m	128
HOGGING MOMENT	60686.5 tm	(48.2%)		46.7 m	58

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	34333	73770	-8786	2354	2354	8830
72.50	-137807	49496	156169	-8294	-1922	-620	8395
72.50	-137811	49492	156173	-8294	-1922	-3272	8395
108.50	-152905	-62153	173293	-8758	-5655	-4305	8758
108.50	-152905	-62157	173293	-8758	-5655	-3700	8758
144.50	-152905	-78830	173293	-8517	4535	2579	8468
144.50	-152905	-78822	173293	-8517	4535	3288	8467
180.50	-108361	7458	122770	-8106	1424	2670	7971
180.50	-108357	7461	122765	-8106	1424	329	7971
219.00	-23246	5106	26231	-9904	-1444	-1444	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3416.9 t (36.7%)	POSITION:	85.8 m	107
SHEAR FORCE (MAX,CORR)	3250.8 t (34.7%)		26.4 m	33
SAGGING MOMENT	-16904.6 tm (7.9%)		102.3 m	128
HOGGING MOMENT	95892.3 tm (48.4%)		54.7 m	68

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5230.1 t (56.2%)	POSITION:	85.8 m	107
SHEAR FORCE (MAX,CORR)	5152.0 t (58.8%)		144.4 m	181
SAGGING MOMENT	-140389 tm (65.9%)		107.2 m	134
HOGGING MOMENT	63755.7 tm (37.6%)		46.7 m	58

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2147.6 t (24.3%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	3214.0 t (34.8%)		30.0 m	38
SAGGING MOMENT	-0.1 tm (0.0%)		185.6 m	232
HOGGING MOMENT	107737.5 tm (46.3%)		64.2 m	80

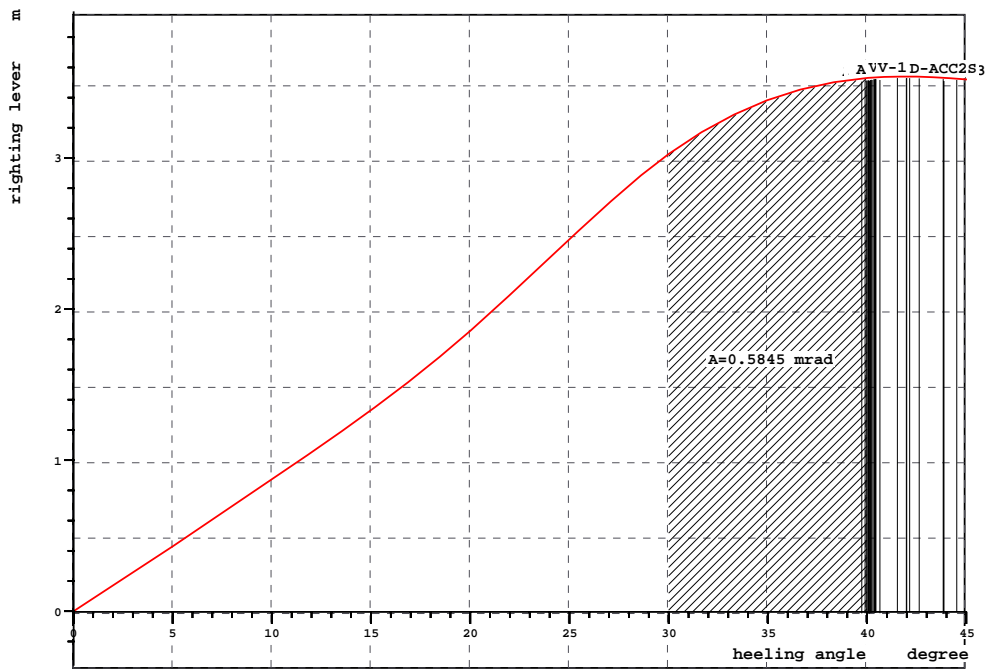
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-6044.1 t (67.3%)	POSITION:	58.0 m	73
SHEAR FORCE (MAX,CORR)	4720.9 t (52.0%)		116.8 m	146
SAGGING MOMENT	-166964 tm (78.4%)		97.6 m	122
HOGGING MOMENT	22948.1 tm (18.0%)		35.0 m	44

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3579.2 t (38.4%)	POSITION:	85.8 m	107
SHEAR FORCE (MAX,CORR)	3290.9 t (36.3%)		116.8 m	146
SAGGING MOMENT	-89667.1 tm (42.1%)		102.0 m	128
HOGGING MOMENT	24063.0 tm (20.0%)		155.0 m	194

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.740	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.324	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.584	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	3.540	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	41.856	deg	OK
GMO.15	GM > 0.15 m	0.150	4.910	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.783		OK
GMD	GM > 1.20 m ref. damage stability	1.200	4.910	m	OK

	FUEL TANK OPERATIONS										BALLAST OPERATIONS									
	DO deep tank S	DO serv and sett	FW tanks	HFO 1 P & S	HFO 2 P & S	HFO serv & sett	LO tanks	Misc oil	Misc water	Total tanks	APT	BW No. 5/TECH	BW No. 4	BW No. 3	BW No. 2	BW No. 1	FPT	Total BW tanks		
	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton		
Dep. condition	138,7	56,4	239,1	723,7	937,9	168,4	113,5	0,0	8,8	2.386,5	WT	0	2.503	2.046	2.070	2.067	2.187	1.921	17.035	
											DB		0	1.246	1.246	1.246	503			
STEP 1	Change	-110,0	0,0	-127,0	-723,7	-117,1	0,0	-62,4	4,1	45,0	-1.091,1	WT	Change	658						1.550
	Total	28,7	56,4	112,1	0,0	820,8	168,4	51,1	4,1	53,8	1.295,4	DB	Total							18.585
STEP 2	Change										0,0	WT	Change							
	Total	28,7	56,4	112,1	0,0	820,8	168,4	51,1	4,1	53,8	1.295,4	DB	Total							
STEP 3	Change											WT	Change							
	Total											DB	Total							
STEP 4	Change											WT	Change							
	Total											DB	Total							
STEP 5	Change											WT	Change							
	Total											DB	Total							
STEP 6	Change											WT	Change							
	Total											DB	Total							
Arr. condition	0,0	25,0	15,0	0,0	20,0	168,4	11,3	8,1	98,9	346,7	WT	658	2.503	2.046	2.070	2.067	2.187	1.921	18.585	
											DB		892	1.246	1.246	1.246	503			

SUMMARY OF BALLASTING OPERATIONS DURING VOYAGE					CONDITION DRAUGHTS AND LONG. STRENGTH								
Name	Class ID		Initial condition:		L*03	d aft (m)	Trim (m)	d fwd (m)	Intact		Flooding		
			Final condition:		L*04				S.F. (%)	B.M. (%)	S.F. (%)	B.M. (%)	
						Dep. condition	9,86	1,82	8,04	51,10	71,30	67,30	65,90
	Cond. no. L*03		Cond. no. L*04		NOTES: At each step in the ballasting operation the allowable hull girder shear force and bending moment must not be exceeded. For other initial conditions or if another ballasting sequence is chosen, the vessels loadcomputer can be used to simulate the proces to make sure that strength is not exceeded during the operation. Reference: CB40.3580.11/055-01: Preliminary Stability Manual - M/S Bulkcarrier	Step 1	8,90	0,42	8,49	50,00	84,00	66,90	85,10
Lightweight	11.044,1	ton	11.044,1	ton		Step 2	9,89	1,80	8,09	49,50	73,90	67,00	80,70
Cargohold (Ballast)	13.682,5	ton	13.682,5	ton		Step 3							
Crew, stores	55	ton	45	ton		Step 4							
Fuel etc	2.387	ton	347	ton		Step 5							
Ballast	17.035	ton	18.585	ton		Step 6							
Displacement	44.203	ton	43.704	ton		Arr. condition	9,38	1,04	8,33	48,80	81,10	66,60	84,70

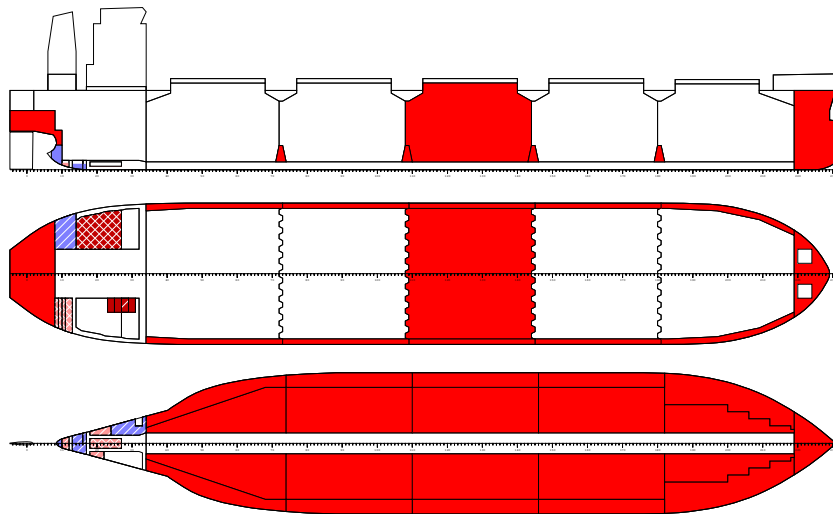
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-04, HEAVY BALLAST - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	43703 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	8.33 m		
Draught aft (below keel)	9.38 m		
Mean draught (below keel)	8.86 m	Trim	1.04 m
KM above the moulded base	14.59 m		
KG0 (solid)	9.15 m	GM0 (solid)	5.44 m
Free surface correction	0.24 m		-0.24 m
KG (fluid)	9.39 m	GM (fluid)	5.20 m
Actual heel	-0.07 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.775)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	13682.5	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		13682.5		101.22	0.00	10.21	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	1035.0	100	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	1023.1	100	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	1023.1	100	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	446.0	100	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	446.0	100	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	865.3	100	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	865.3	100	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	386.0	100	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	386.0	100	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	8540

SUBTOTAL		18585.2		104.35	0.00	6.71	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	32659.3	102.00	-0.02	8.24
Total weight	43703.4	97.47	-0.01	9.15

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.06

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 11.14 M

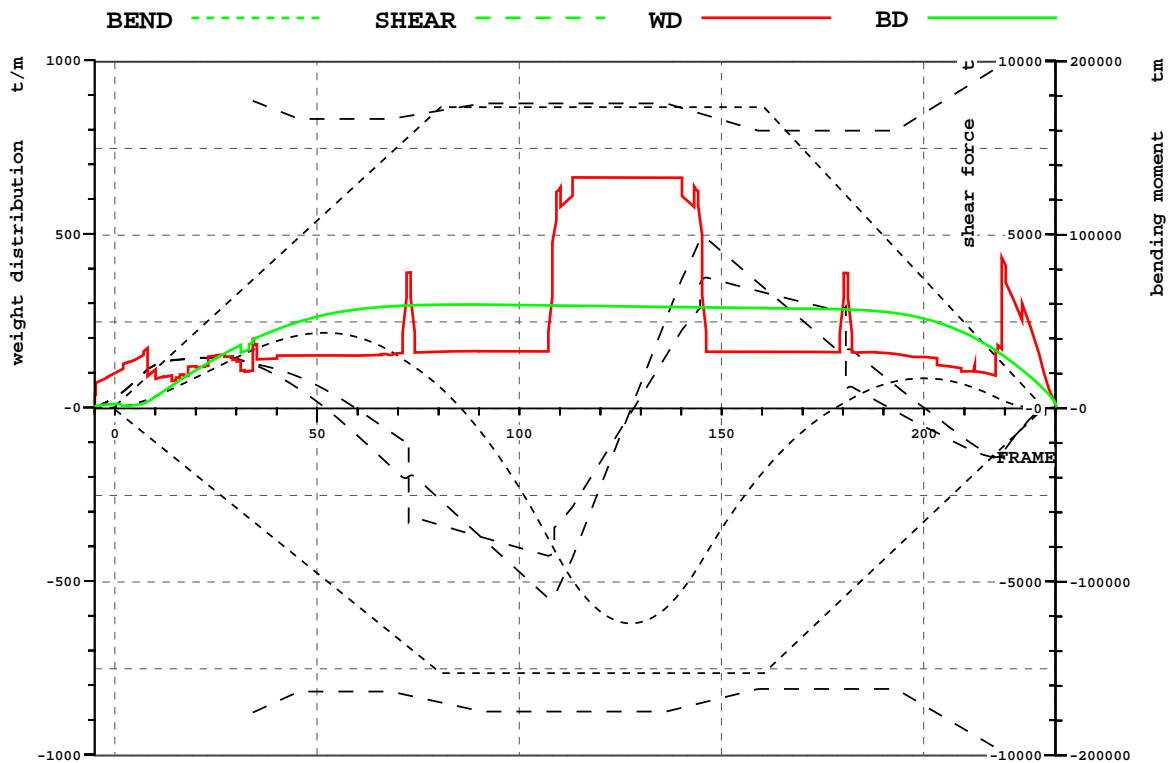
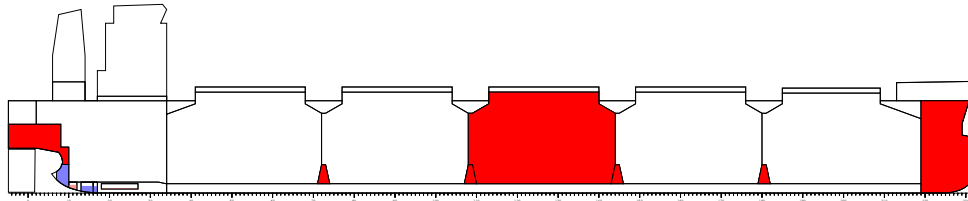
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 11.19 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 11.02 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 10.86 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 10.69 M

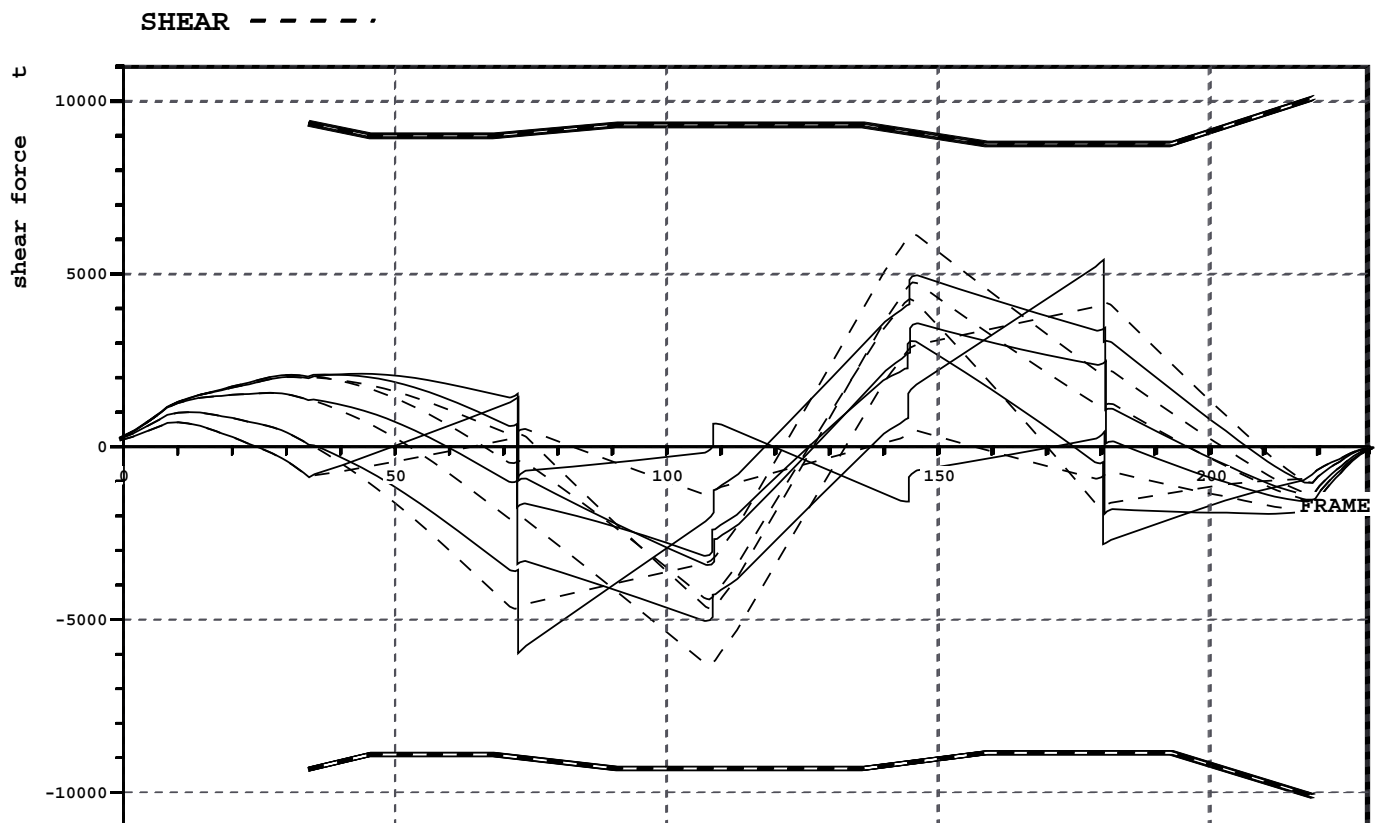
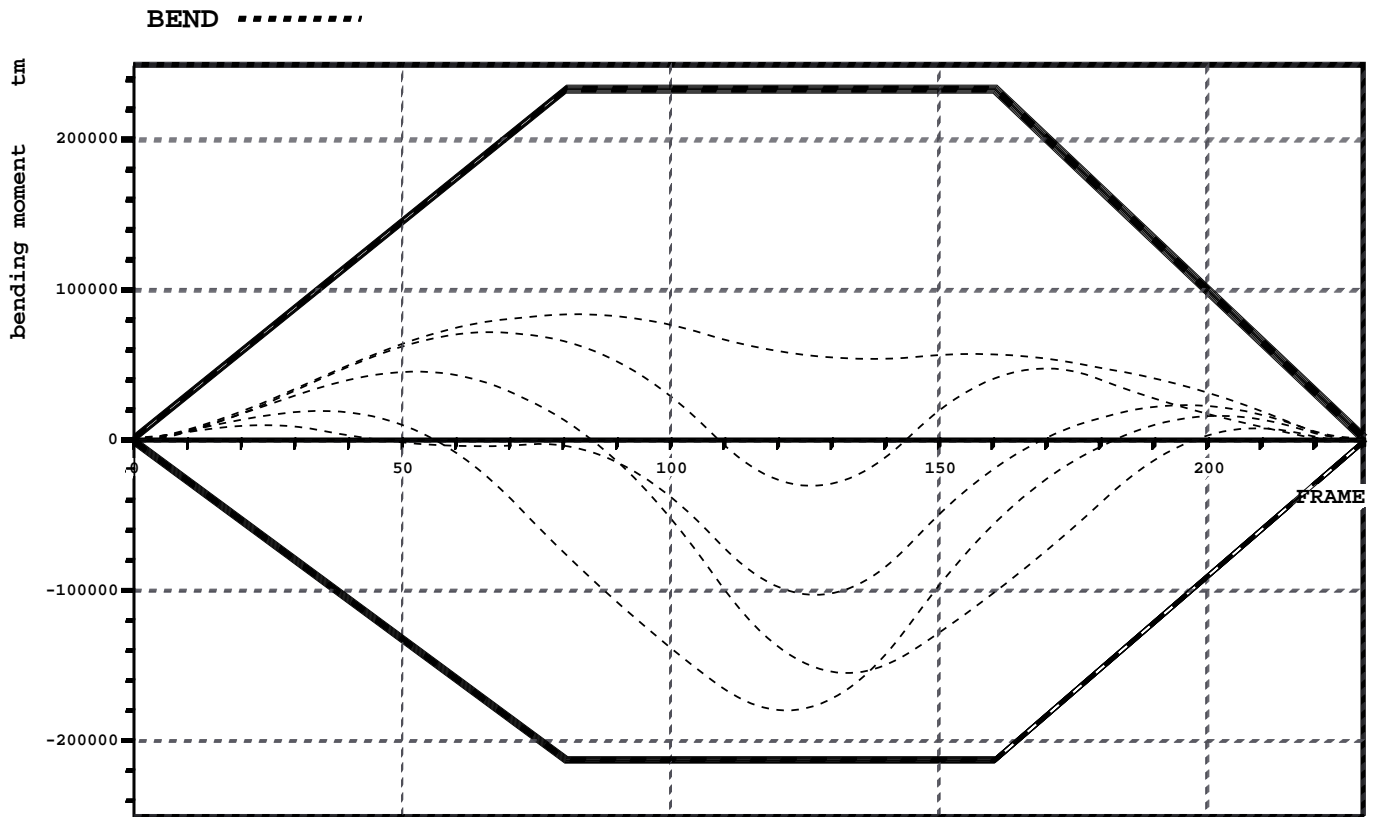
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4272.7 t	(48.8%)	85.6 m	107
SHEAR FORCE (MAX,CORR)	3744.4 t	(44.5%)	116.8 m	146
SAGGING MOMENT	-123982 tm	(81.1%)	102.0 m	128
HOGGING MOMENT	43496.5 tm	(39.0%)	41.4 m	52

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	33476	73770	-8786	1222	1222	8830
72.50	-137807	26250	156169	-8294	-1983	-886	8395
72.50	-137811	26247	156173	-8294	-1983	-3301	8395
108.50	-152905	-81087	173293	-8758	-5421	-4103	8758
108.50	-152905	-81091	173293	-8758	-5421	-3456	8758
144.50	-152905	-90221	173293	-8517	4820	2855	8468
144.50	-152905	-90214	173293	-8517	4820	3561	8467
180.50	-108361	3410	122770	-8106	1644	2903	7971
180.50	-108357	3412	122765	-8106	1644	521	7971
219.00	-23246	5004	26231	-9904	-1402	-1402	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3143.6 t (33.8%)	85.8 m	107
SHEAR FORCE (MAX,CORR)	3077.2 t (33.9%)	116.2 m	145
SAGGING MOMENT	-29333.3 tm (13.8%)	101.2 m	126
HOGGING MOMENT	73041.2 tm (38.1%)	52.9 m	66

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-5037.6 t (54.1%)	85.8 m	107
SHEAR FORCE (MAX,CORR)	5417.7 t (61.9%)	144.4 m	181
SAGGING MOMENT	-154509 tm (72.5%)	106.4 m	133
HOGGING MOMENT	46174.1 tm (30.2%)	42.1 m	53

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-1948.6 t (22.0%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2108.2 t (23.3%)	35.0 m	44
SAGGING MOMENT	-0.4 tm (0.0%)	-3.8 m	-5
HOGGING MOMENT	83725.3 tm (35.9%)	66.1 m	83

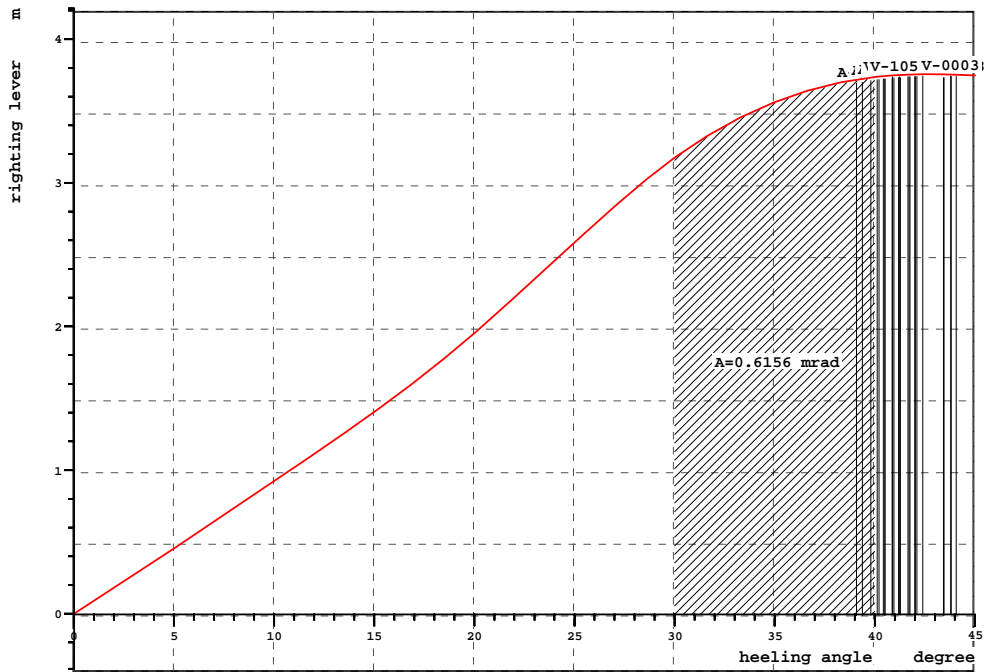
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-5986.2 t (66.6%)	58.0 m	73
SHEAR FORCE (MAX,CORR)	4939.6 t (54.5%)	116.8 m	146
SAGGING MOMENT	-180307 tm (84.7%)	97.1 m	121
HOGGING MOMENT	18829.0 tm (18.5%)	27.9 m	35

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3441.0 t (37.0%)	85.8 m	107
SHEAR FORCE (MAX,CORR)	3542.2 t (39.1%)	116.8 m	146
SAGGING MOMENT	-103951 tm (48.8%)	101.6 m	127
HOGGING MOMENT	22132.0 tm (19.4%)	156.5 m	196

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.778	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.394	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.616	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	3.756	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	42.752	deg	OK
GM0.15	GM > 0.15 m	0.150	5.200	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.747		OK
GMD	GM > 1.20 m ref. damage stability	1.200	5.200	m	OK

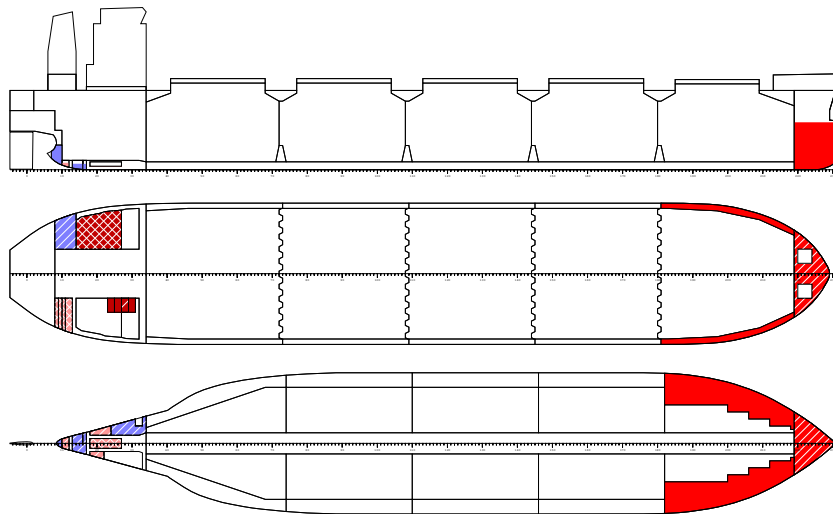
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-05, DOCKING KEEL - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	14848 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	3.27 m		
Draught aft (below keel)	3.27 m		
Mean draught (below keel)	3.27 m	Trim	0.00 m
KM above the moulded base	26.81 m		
KG0 (solid)	10.69 m	GM0 (solid)	16.12 m
Free surface correction	0.24 m		-0.24 m
KG (fluid)	10.93 m	GM (fluid)	15.88 m
Actual heel	-0.14 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm
CONTENTS=Solid Cargo (RHO=0.775)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0
TOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1225.3	64	179.17	0.00	6.19	1877
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		3412.4		166.13	-0.00	6.83	1877

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	3804.0	150.79	-0.16	7.32
Total weight	14848.1	101.17	-0.04	10.69

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.32

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 16.35 M

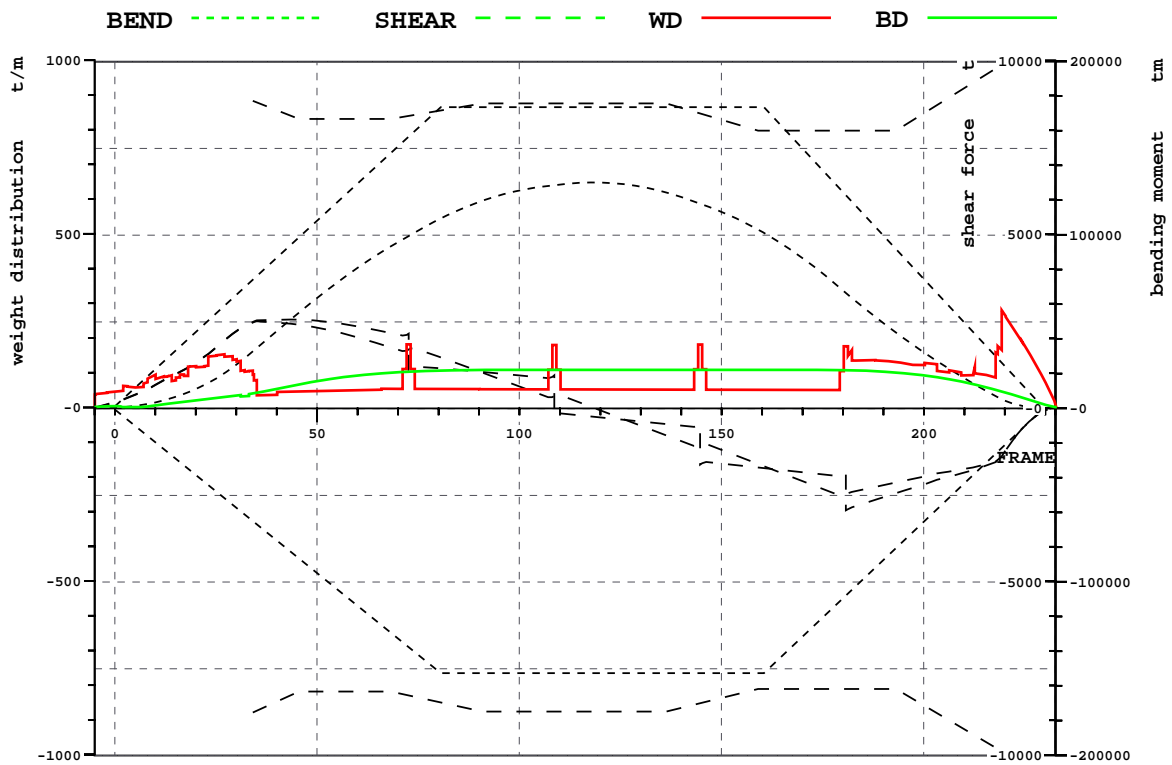
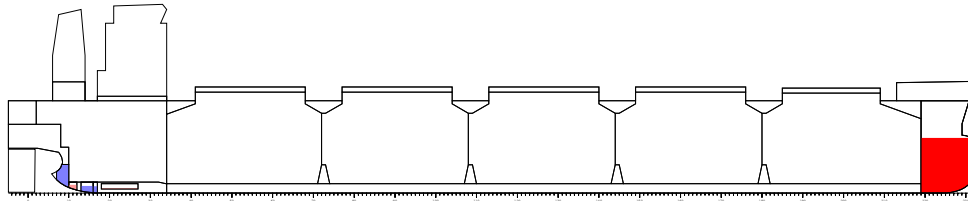
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 16.55 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 16.55 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 16.55 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 16.55 M

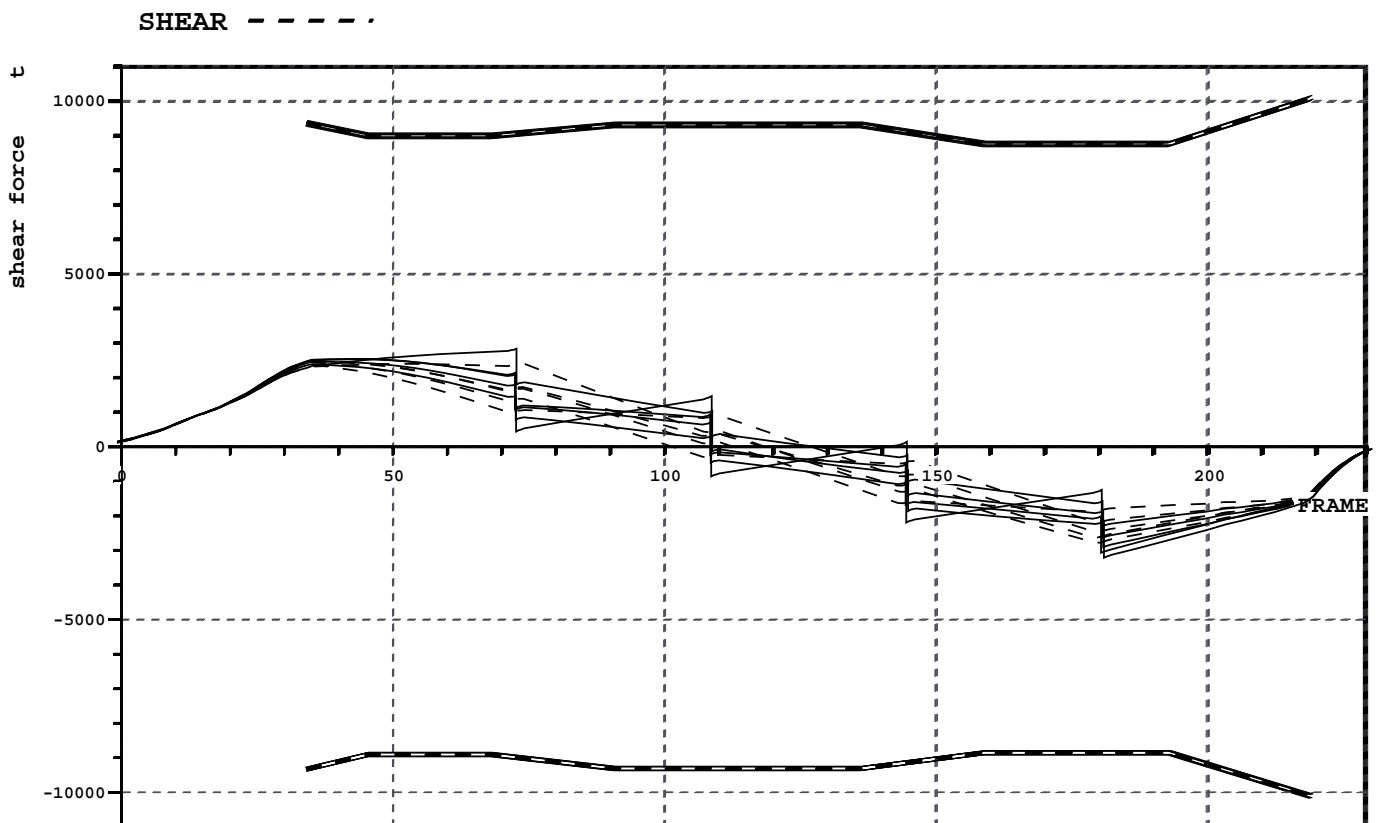
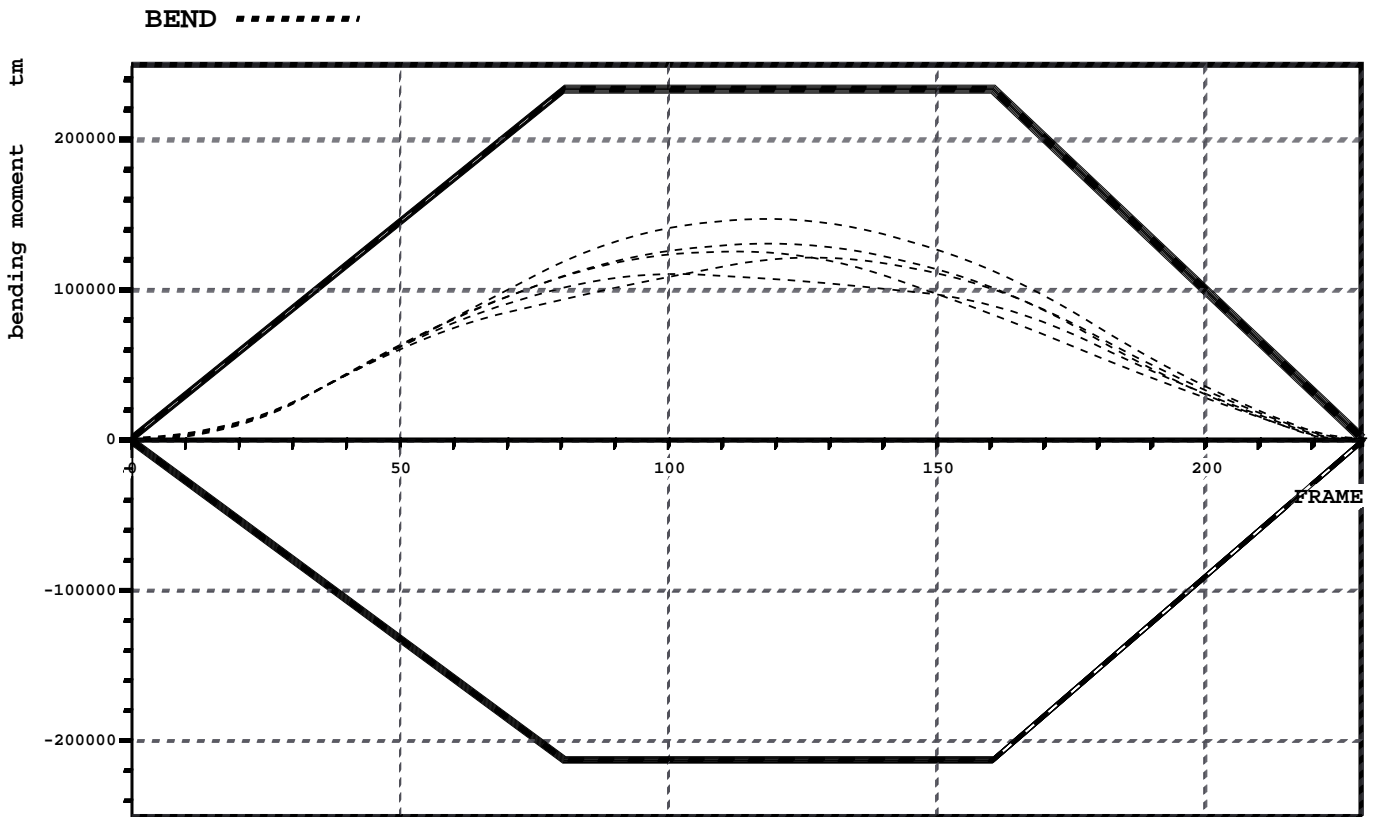
CHECK OF LONGITUDINAL STRENGTH



				X	FRAME
SHEAR FORCE (MIN,CORR)	-2964.5 t	(36.6%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	2531.3 t	(30.1%)		34.7 m	43
SAGGING MOMENT	-				
HOGGING MOMENT	130158.5 tm	(75.1%)		94.5 m	118

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	32598	73770	-8786	2461	2461	8830
72.50	-137807	99135	156169	-8294	1676	2126	8395
72.50	-137811	99138	156173	-8294	1676	1089	8395
108.50	-152905	128516	173293	-8758	336	923	8758
108.50	-152905	128516	173293	-8758	336	-251	8758
144.50	-152905	118002	173293	-8517	-1065	-478	8468
144.50	-152905	118000	173293	-8517	-1065	-1652	8467
180.50	-108361	66843	122770	-8106	-2493	-1906	7971
180.50	-108357	66839	122765	-8106	-2493	-2965	7971
219.00	-23246	5509	26231	-9904	-1416	-1416	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3053.3 t (34.5%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2546.2 t (28.2%)	35.0 m	44
SAGGING MOMENT	-		
HOGGING MOMENT	132046.4 tm (56.6%)	94.9 m	119

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2299.8 t (26.0%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2550.1 t (28.1%)	34.7 m	43
SAGGING MOMENT	-0.1 tm (0.0%)	-3.8 m	-5
HOGGING MOMENT	126144.5 tm (54.1%)	90.4 m	113

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2637.0 t (29.8%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2453.2 t (26.4%)	29.0 m	36
SAGGING MOMENT	-		
HOGGING MOMENT	110523.4 tm (47.4%)	81.0 m	101

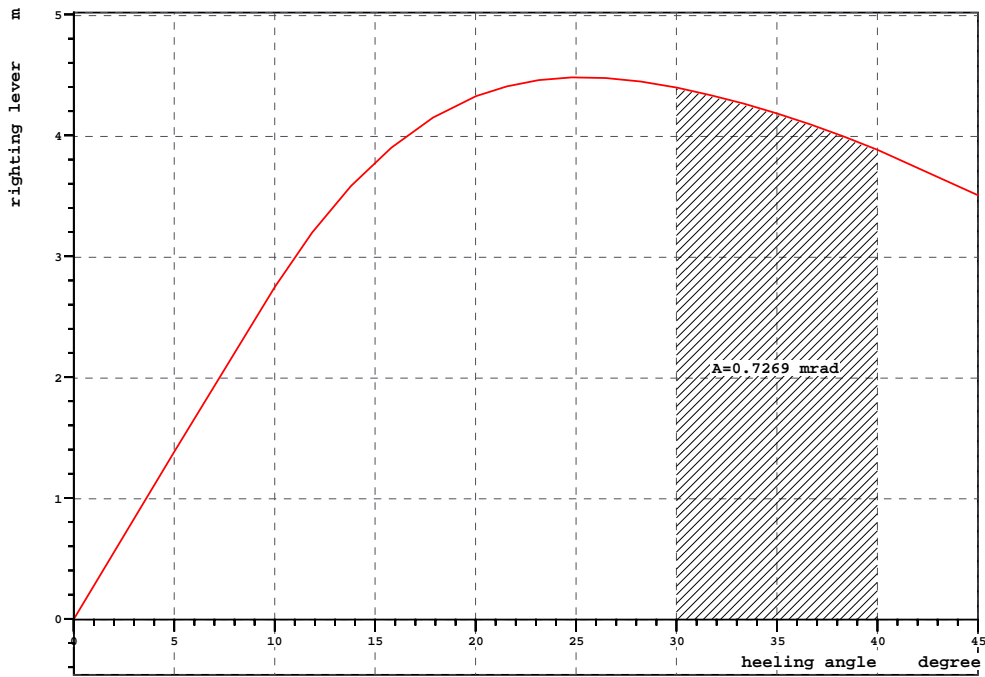
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2919.7 t (33.0%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2371.7 t (25.4%)	28.0 m	35
SAGGING MOMENT	-0.8 tm (0.1%)	185.6 m	232
HOGGING MOMENT	120810.6 tm (51.8%)	101.2 m	126

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3233.9 t (36.5%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2807.3 t (31.0%)	58.0 m	73
SAGGING MOMENT	-2.6 tm (0.3%)	185.6 m	232
HOGGING MOMENT	145880.5 tm (62.6%)	94.5 m	118

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.660	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	2.387	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.727	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.395	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	25.347	deg	OK
GM0.15	GM > 0.15 m	0.150	15.879	m	OK
IMOWEATHER	IMO weather criterion	1.000	1.072		OK
GMD	GM > 1.20 m ref. damage stability	1.200	15.879	m	OK

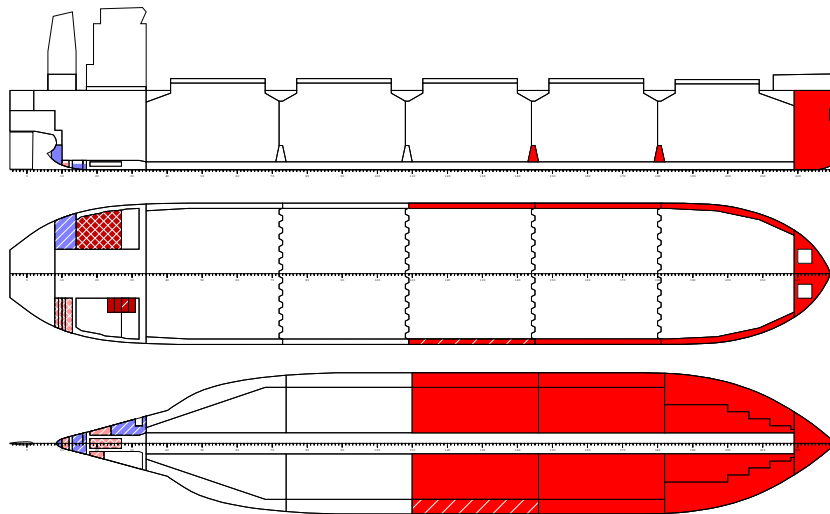
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-06, PROPELLER IMMERSION - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	22626 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	6.46 m		
Draught aft (below keel)	2.86 m		
Mean draught (below keel)	4.66 m	Trim	-3.59 m
KM above the moulded base	19.57 m		
KG0 (solid)	9.21 m	GM0 (solid)	10.35 m
Free surface correction	0.08 m		-0.08 m
KG (fluid)	9.30 m	GM (fluid)	10.27 m
Actual heel	0.03 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.775)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	985.0	95	101.83	-14.88	8.46	88
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		11190.6		137.74	0.06	6.53	88

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	11582.2	133.65	0.01	6.70
Total weight	22626.3	109.46	0.00	9.21

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.88

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 13.67 M

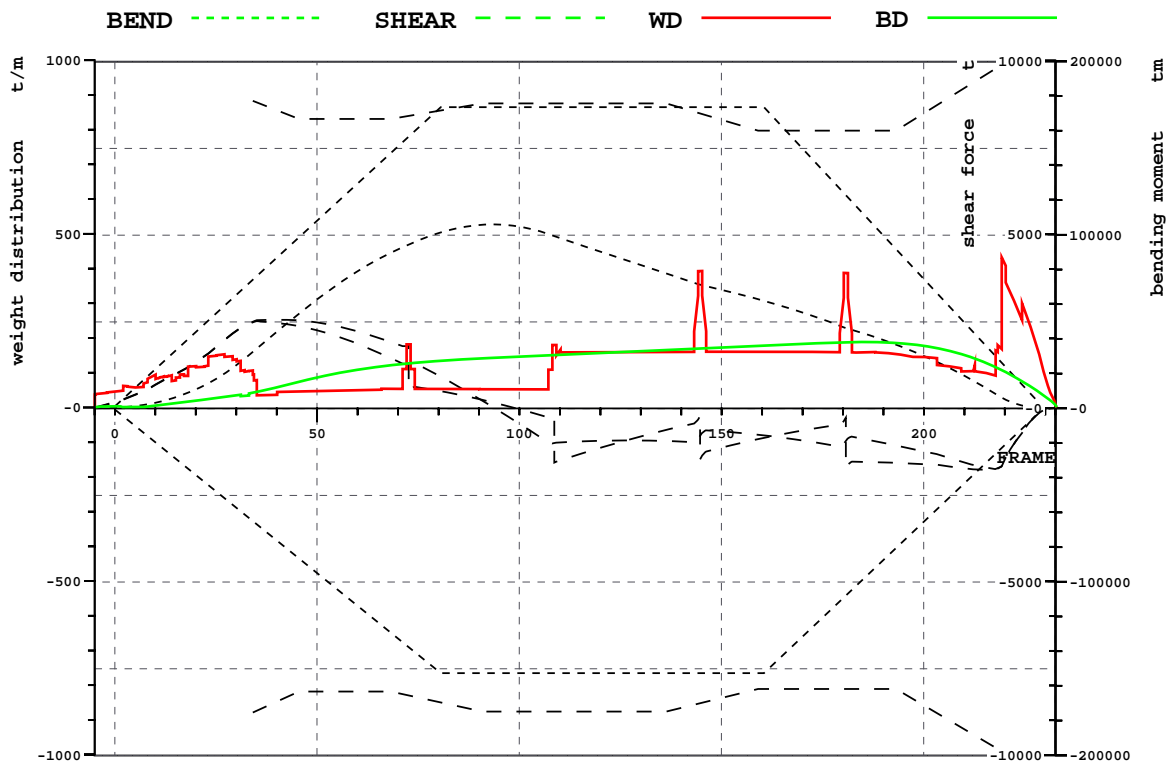
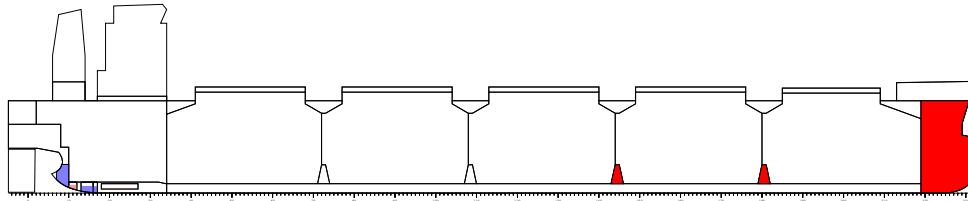
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 14.41 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 14.97 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 15.54 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 16.10 M

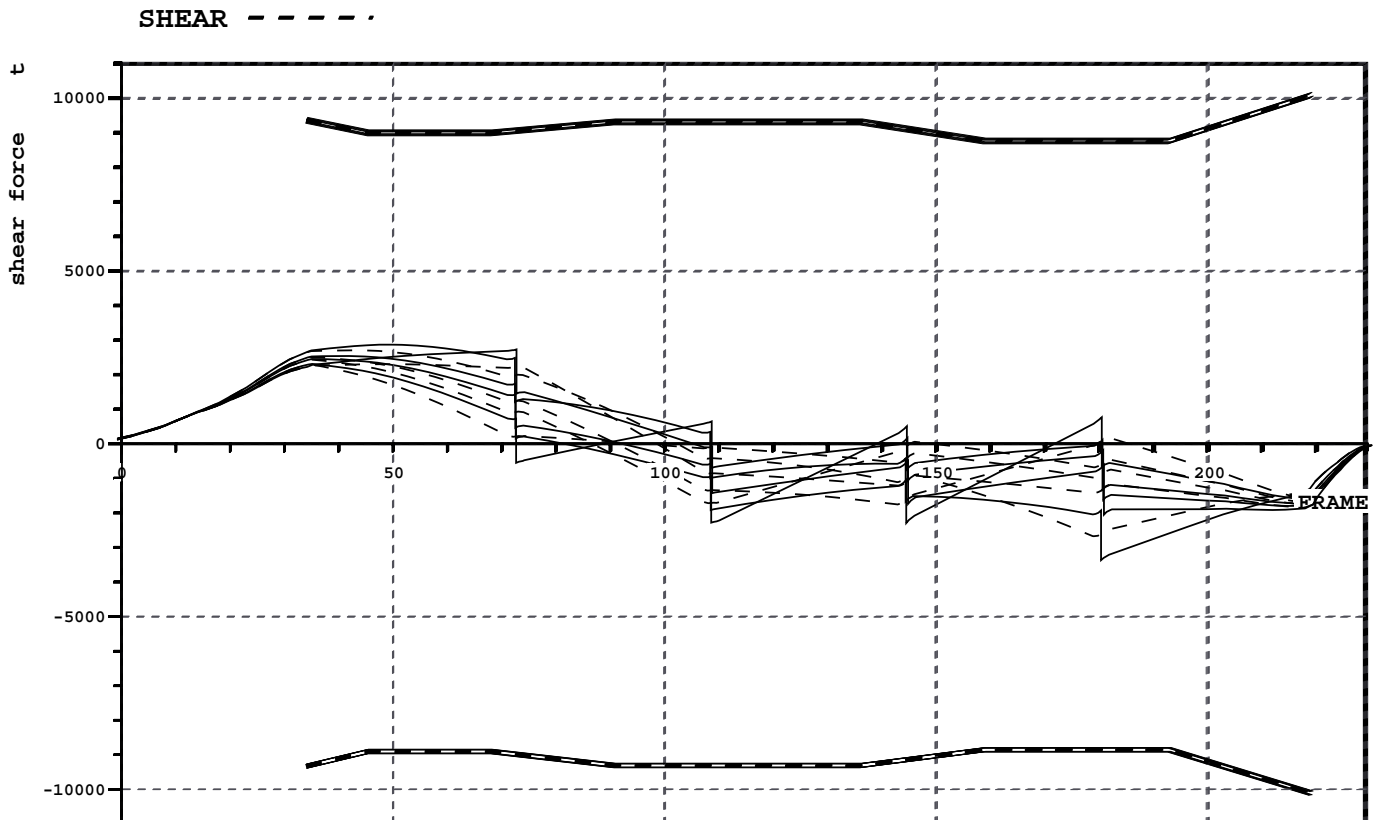
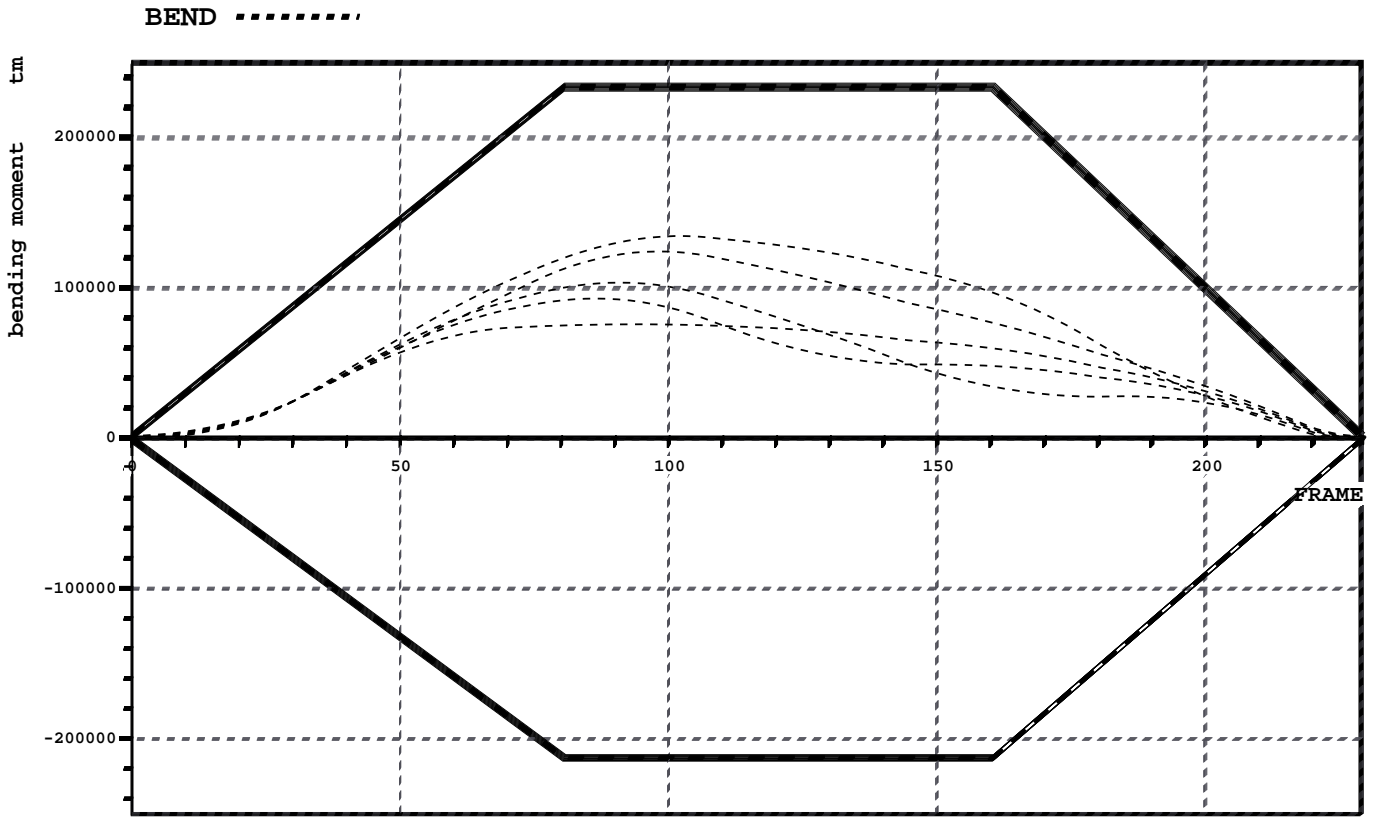
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-1797.2 t	(18.5%)	173.1 m	216
SHEAR FORCE (MAX,CORR)	2522.6 t	(29.2%)	30.7 m	38
SAGGING MOMENT	-3.9 tm	(0.4%)	-3.5 m	-4
HOGGING MOMENT	105985.1 tm	(61.2%)	74.6 m	93

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	32268	73770	-8786	2467	2467	8830
72.50	-137807	94175	156169	-8294	1287	1796	8395
72.50	-137811	94177	156173	-8294	1287	518	8395
108.50	-152905	99338	173293	-8758	-1015	-245	8758
108.50	-152905	99337	173293	-8758	-1015	-1589	8758
144.50	-152905	71255	173293	-8517	-820	-245	8468
144.50	-152905	71254	173293	-8517	-819	-1496	8467
180.50	-108361	46403	122770	-8106	-971	-294	7971
180.50	-108357	46401	122765	-8106	-971	-1735	7971
219.00	-23246	6425	26231	-9904	-1695	-1695	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3357.4 t (37.9%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	2885.6 t (32.1%)		39.5 m	49
SAGGING MOMENT	-16.5 tm (1.6%)		-3.2 m	-4
HOGGING MOMENT	135736.7 tm (58.2%)		81.7 m	102

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2291.2 t (25.1%)	POSITION:	115.6 m	145
SHEAR FORCE (MAX,CORR)	2542.4 t (27.6%)		30.7 m	38
SAGGING MOMENT	-6.7 tm (0.7%)		-3.5 m	-4
HOGGING MOMENT	104045.9 tm (44.6%)		72.8 m	91

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2286.6 t (24.6%)	POSITION:	86.8 m	109
SHEAR FORCE (MAX,CORR)	2446.5 t (26.3%)		28.3 m	35
SAGGING MOMENT	-4.4 tm (0.4%)		-3.5 m	-4
HOGGING MOMENT	92859.2 tm (39.8%)		69.1 m	86

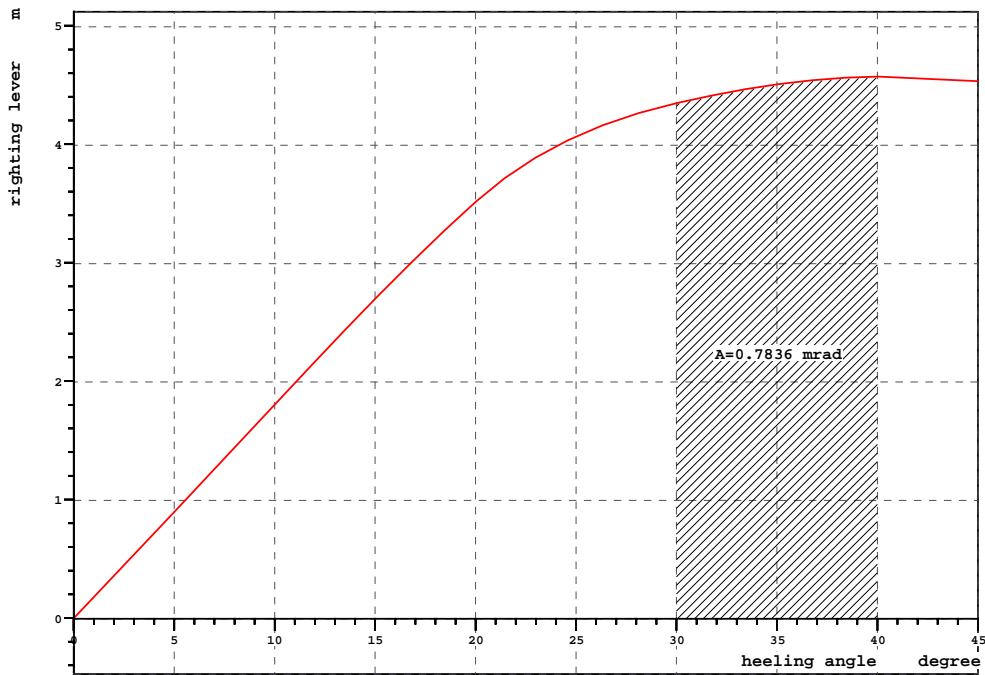
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1811.8 t (18.2%)	POSITION:	172.1 m	215
SHEAR FORCE (MAX,CORR)	2291.6 t (24.6%)		28.0 m	35
SAGGING MOMENT	-2.0 tm (0.2%)		-3.5 m	-4
HOGGING MOMENT	75188.1 tm (32.2%)		75.0 m	94

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2076.1 t (23.5%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	2699.4 t (29.8%)		58.0 m	73
SAGGING MOMENT	-1.0 tm (0.1%)		-3.8 m	-5
HOGGING MOMENT	122951.1 tm (52.7%)		78.4 m	98

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.327	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	2.111	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.784	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.570	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	40.564	deg	OK
GM0.15	GM > 0.15 m	0.150	10.270	m	OK
IMOWEATHER	IMO weather criterion	1.000	1.901		OK
GMD	GM > 1.20 m ref. damage stability	1.200	10.270	m	OK

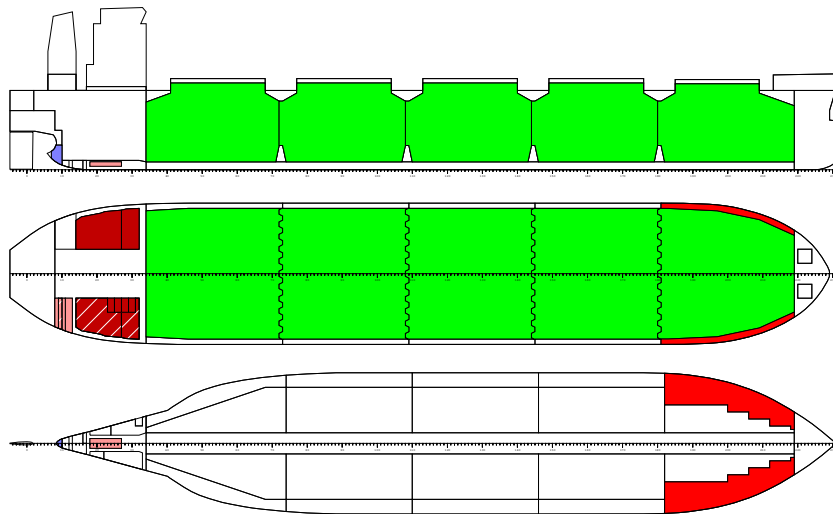
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-07, HOMOGEN DESIGN - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	56439 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	10.48 m		
Draught aft (below keel)	11.75 m		
Mean draught (below keel)	11.12 m	Trim	1.26 m
KM above the moulded base	13.86 m		
KG0 (solid)	10.57 m	GM0 (solid)	3.30 m
Free surface correction	0.09 m		-0.09 m
KG (fluid)	10.66 m	GM (fluid)	3.21 m
Actual heel	-0.88 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.62)							
CH1	NO.1 CARGO HOLD	7711.5	100	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	8275.1	100	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	8276.2	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	8275.1	100	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	8228.3	100	43.26	0.00	10.52	0

TOTAL		40766.2		100.38	0.00	10.26	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	1443
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	1443
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		2187.1		158.83	0.00	7.19	2886

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	45394.7	98.73	-0.07	10.26
Total weight	56438.8	95.86	-0.06	10.57

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.92

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 8.96 M

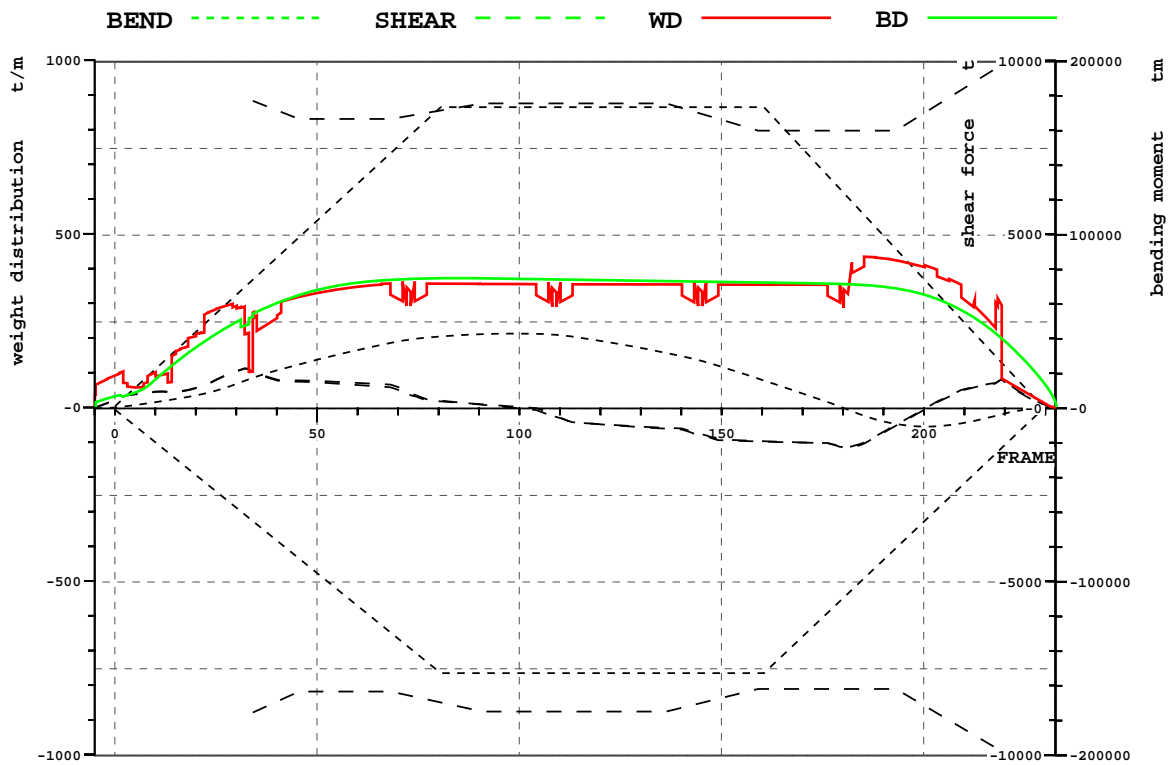
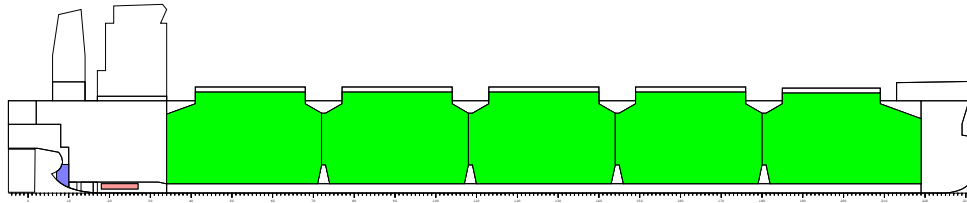
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 8.97 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 8.77 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 8.57 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 8.37 M

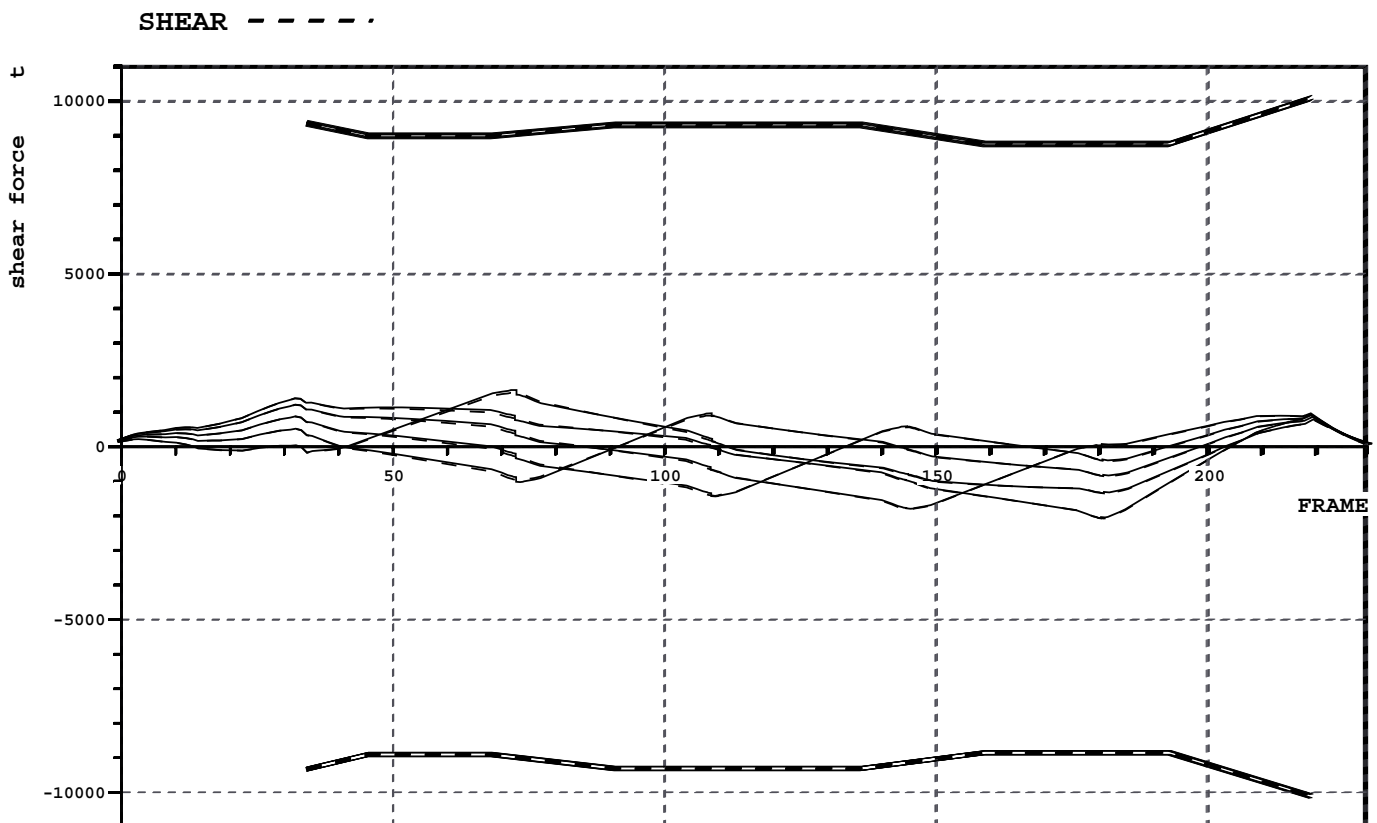
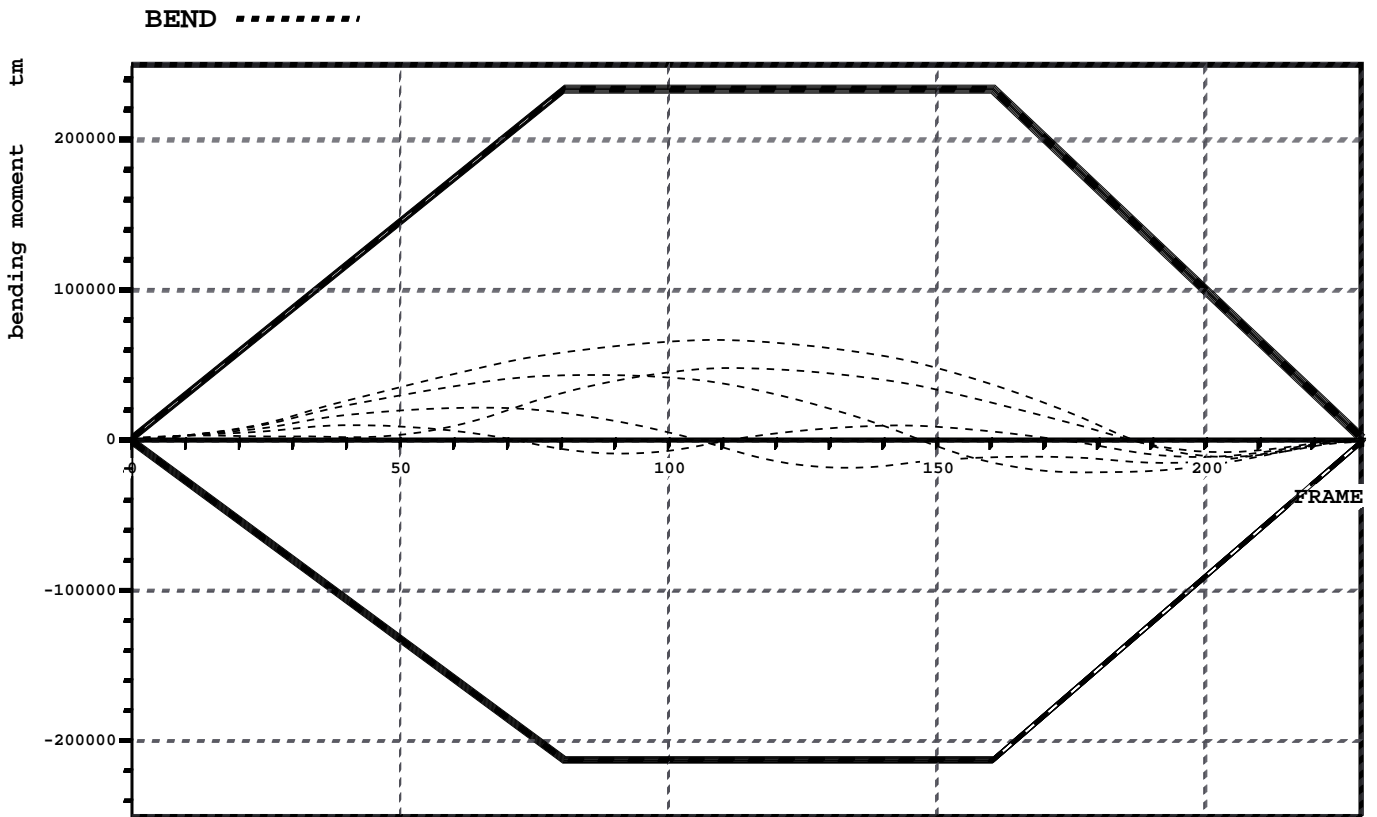
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-1163.5 t	(14.4%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	1131.6 t	(12.8%)	25.6 m	32
SAGGING MOMENT	-10539.6 tm	(16.5%)	160.6 m	201
HOGGING MOMENT	43072.0 tm	(24.9%)	79.1 m	99

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	17468	73770	-8786	990	990	8830
72.50	-137807	39524	156169	-8294	424	498	8395
72.50	-137811	39525	156173	-8294	424	366	8395
108.50	-152905	42442	173293	-8758	-239	-181	8758
108.50	-152905	42441	173293	-8758	-239	-262	8758
144.50	-152905	27638	173293	-8517	-777	-754	8468
144.50	-152905	27637	173293	-8517	-777	-764	8467
180.50	-108361	-185	122770	-8106	-1150	-1163	7971
180.50	-108357	-187	122765	-8106	-1150	-1125	7971
219.00	-23246	-3634	26231	-9904	819	819	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2061.1 t (23.3%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	1419.6 t (15.2%)		25.6 m	32
SAGGING MOMENT	-10085.8 tm (13.1%)		163.5 m	204
HOGGING MOMENT	67894.9 tm (29.1%)		87.0 m	109

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1792.0 t (19.6%)	POSITION:	116.2 m	145
SHEAR FORCE (MAX,CORR)	1225.1 t (13.1%)		25.6 m	32
SAGGING MOMENT	-20910.1 tm (13.1%)		142.0 m	177
HOGGING MOMENT	43984.7 tm (18.9%)		68.8 m	86

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1441.7 t (15.5%)	POSITION:	87.4 m	109
SHEAR FORCE (MAX,CORR)	910.4 t (9.0%)		175.2 m	219
SAGGING MOMENT	-18489.4 tm (8.7%)		106.4 m	133
HOGGING MOMENT	21575.4 tm (11.3%)		52.5 m	66

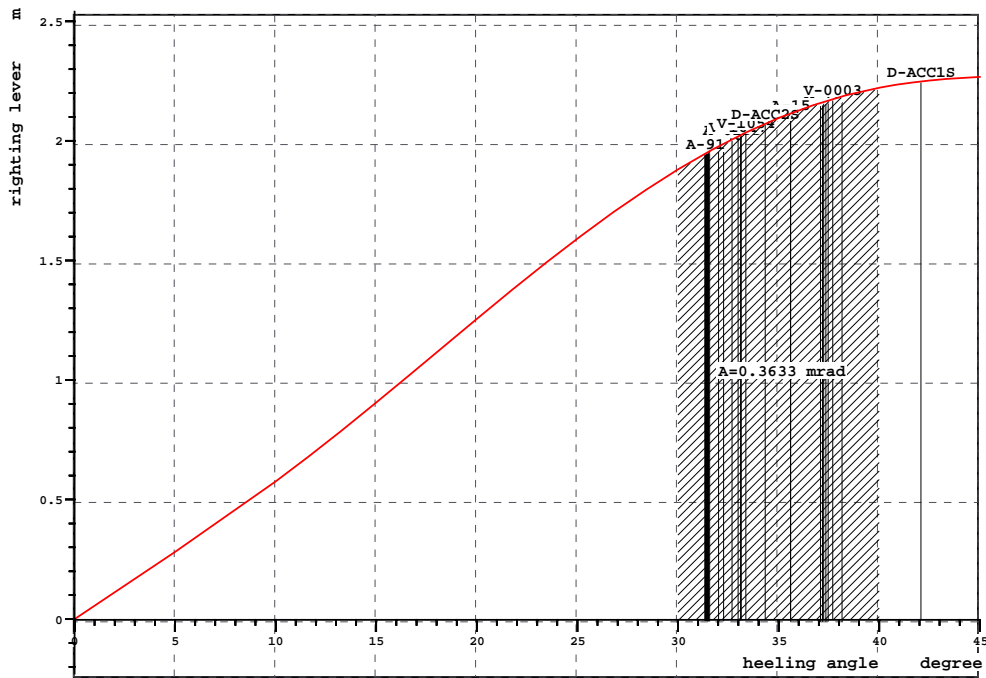
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1038.5 t (11.5%)	POSITION:	58.6 m	73
SHEAR FORCE (MAX,CORR)	952.3 t (10.2%)		86.8 m	108
SAGGING MOMENT	-11785.7 tm (12.3%)		158.7 m	198
HOGGING MOMENT	9421.1 tm (8.0%)		32.5 m	41

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1370.1 t (15.5%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	1616.5 t (17.9%)		57.4 m	72
SAGGING MOMENT	-9116.4 tm (11.2%)		162.4 m	203
HOGGING MOMENT	46835.9 tm (20.1%)		89.2 m	112

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.485	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	0.849	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.363	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	2.268	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	3.207	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.723		OK
GMD	GM > 1.20 m ref. damage stability	1.200	3.207	m	OK

		FUEL TANK OPERATIONS										BALLAST OPERATIONS								
		DO deep tank S	DO serv and sett	FW tanks	HFO 1 P & S	HFO 2 P & S	HFO serv & sett	LO tanks	Misc oil	Misc water	Total tanks		APT	BW No. 5/TECH	BW No. 4	BW No. 3	BW No. 2	BW No. 1	FPT	Total BW tanks
		ton	ton	ton	ton	ton	ton	ton	ton	ton	ton		ton	ton	ton	ton	ton	ton	ton	ton
Dep. condition		138,7	56,4	239,1	723,7	937,9	168,4	113,5	0,0	8,8	2.386,5	WT	0	0	0	0	0	2.188	0	2.188
												DB		0	0	0	0	0	0	
STEP 1	Change	-116,7	-8,4	-139,1	-723,7	-341,5	0,0	-62,4	4,1	45,0	-1.342,7	WT								
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8	1.043,8	DB								
STEP 2	Change										0,0	WT								
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8	1.043,8	DB								1.200
STEP 3	Change											WT								
	Total											DB								
STEP 4	Change											WT								
	Total											DB								
STEP 5	Change											WT								
	Total											DB								
STEP 6	Change											WT								
	Total											DB								
Arr. condition		0,0	25,0	15,0	0,0	20,0	168,4	11,3	8,1	98,9	346,7	WT	0	0	0	0	0	0	0	1.200
												DB		0	0	0	0	1.200	0	1.200

SUMMARY OF BALLASTING OPERATIONS DURING VOYAGE					CONDITION DRAUGHTS AND LONG. STRENGTH								
Name	Class ID		Initial condition:		L*07		d aft (m)	Trim (m)	d fwd (m)	Intact		Flooding	
			Final condition:		L*08	Dep. condition	11,75	1,26	10,48	14,40	2409,00	23,30	29,10
	Cond. no. L*07		Cond. no. L*08		NOTES: At each step in the ballasting operation the allowable hull girder shear force and bending moment must not be exceeded. For other initial conditions or if another ballasting sequence is chosen, the vessels loadcomputer can be used to simulate the proces to make sure that strength is not exceeded during the operation. Reference: CB40.3580.11/055-01: Preliminary Stability Manual - M/S Bulkcarrier	Step 1	10,89	0,00	10,89	11,20	17,40	20,80	21,10
Lightweight	11.044,1	ton	11.044,1	ton		Step 2	11,50	0,87	10,27	8,00	15,70	18,50	21,00
Cargo	40.766,2	ton	40.766,2	ton		Step 3							
Crew, stores	55	ton	45	ton		Step 4							
Fuel etc	2.387	ton	347	ton		Step 5							
Ballast	2.188	ton	1.200	ton		Step 6							
Displacement	56.439	ton	53.402	ton		Arr. condition	10,67	0,16	10,51	8,30	16,20	16,90	25,30

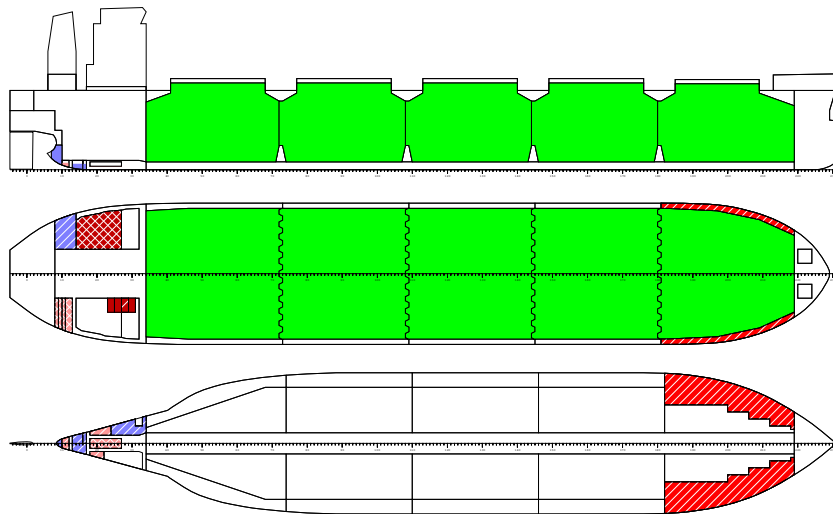
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-08, HOMOGEN DESIGN - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	53402 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	10.51 m		
Draught aft (below keel)	10.67 m		
Mean draught (below keel)	10.59 m	Trim	0.16 m
KM above the moulded base	13.89 m		
KG0 (solid)	10.43 m	GM0 (solid)	3.46 m
Free surface correction	0.09 m		-0.09 m
KG (fluid)	10.51 m	GM (fluid)	3.37 m
Actual heel	-0.09 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.62)							
CH1	NO.1 CARGO HOLD	7711.5	100	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	8275.1	100	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	8276.2	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	8275.1	100	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	8228.3	100	43.26	0.00	10.52	0

TOTAL		40766.2		100.38	0.00	10.26	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	600.0	55	159.85	11.66	2.77	1443
WT1S	NO.1 WT BALLAST S	600.0	55	159.85	-11.66	2.77	1443
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		1200.0		159.85	0.00	2.77	2886

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	42357.9	101.29	-0.01	10.06
Total weight	53402.0	97.73	-0.01	10.43

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.85

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 9.09 M

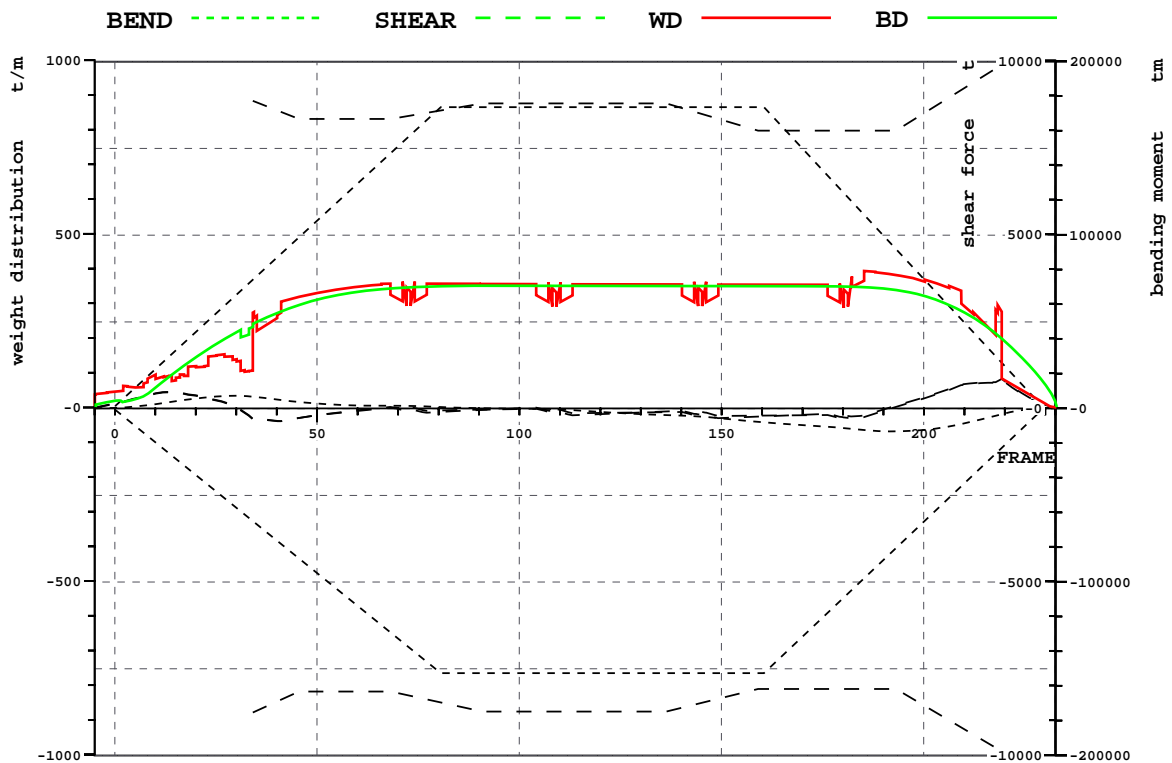
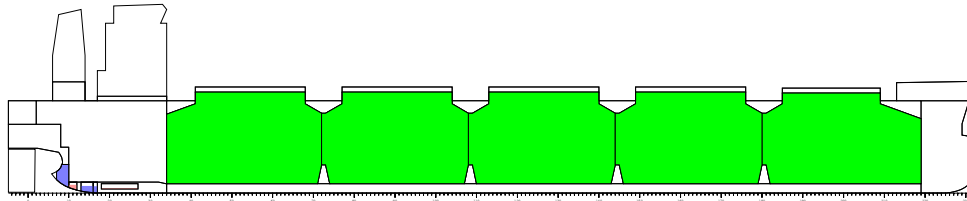
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 9.27 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 9.24 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 9.22 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 9.19 M

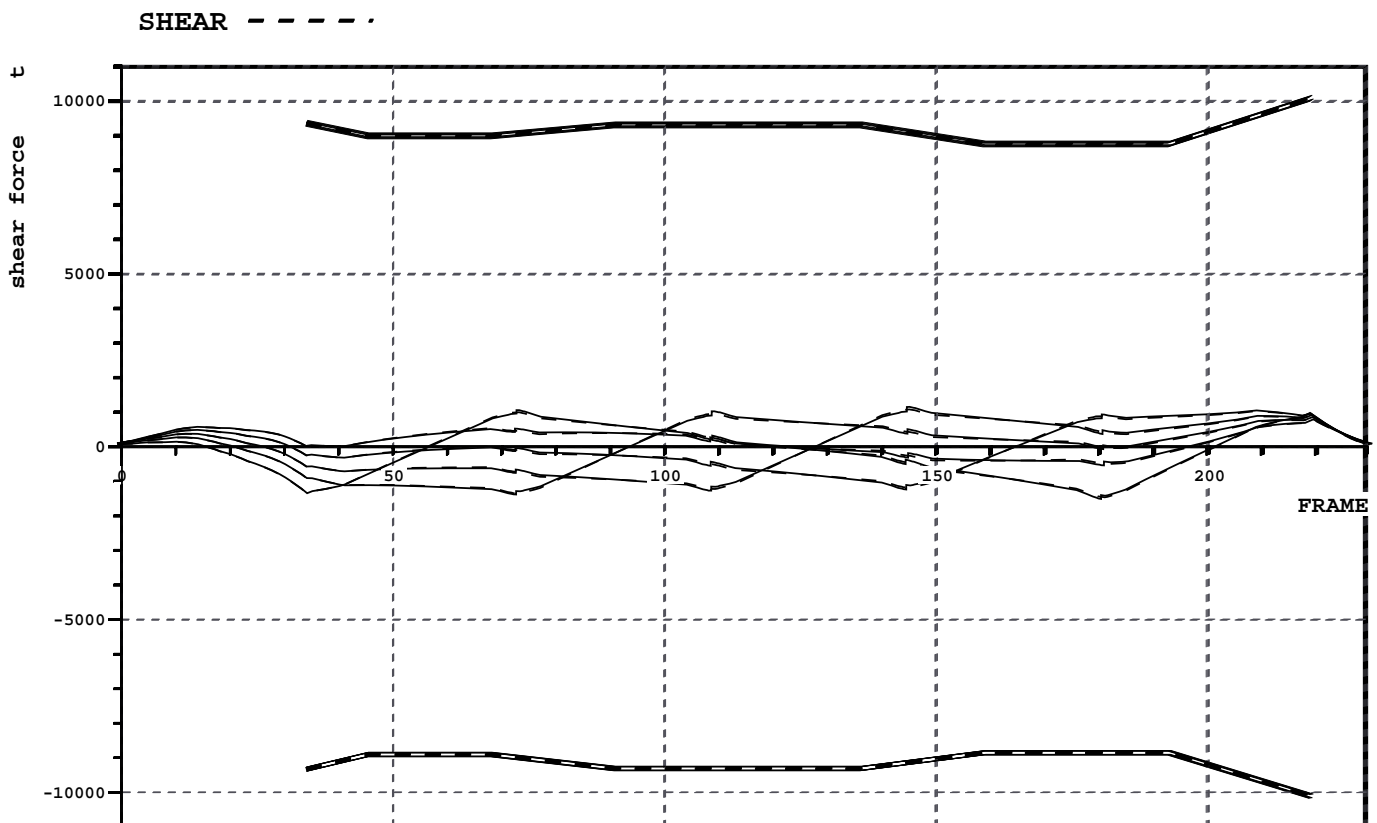
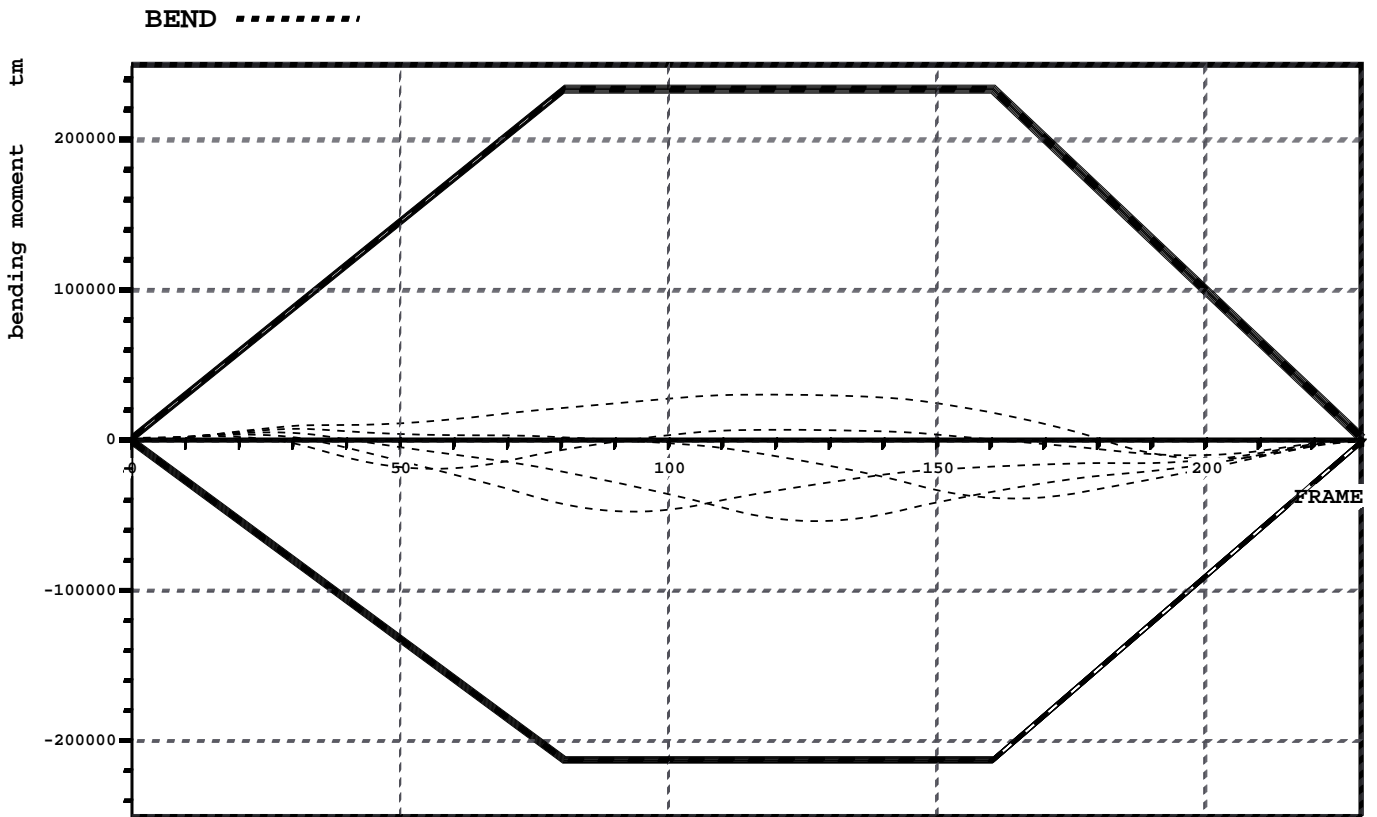
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-393.0 t	(4.7%)	POSITION: 32.8 m	41
SHEAR FORCE (MAX,CORR)	818.6 t	(8.3%)	175.2 m	219
SAGGING MOMENT	-13316.3 tm	(16.2%)	153.9 m	192
HOGGING MOMENT	7239.4 tm	(11.1%)	24.1 m	30

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	6765	73770	-8786	-323	-323	8830
72.50	-137807	1400	156169	-8294	-52	-91	8395
72.50	-137811	1400	156173	-8294	-52	6	8395
108.50	-152905	-459	173293	-8758	-102	-159	8758
108.50	-152905	-459	173293	-8758	-102	-39	8758
144.50	-152905	-4735	173293	-8517	-190	-252	8468
144.50	-152905	-4735	173293	-8517	-190	-123	8467
180.50	-108361	-11486	122770	-8106	-280	-347	7971
180.50	-108357	-11486	122765	-8106	-280	-237	7971
219.00	-23246	-3523	26231	-9904	819	819	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1495.0 t	(16.9%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	995.9 t	(9.9%)		175.2 m 219
SAGGING MOMENT	-11573.5 tm	(13.5%)		161.3 m 202
HOGGING MOMENT	31432.7 tm	(13.5%)		95.2 m 119

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1231.2 t	(13.5%)	POSITION:	115.6 m 145
SHEAR FORCE (MAX,CORR)	1054.6 t	(11.0%)		167.2 m 209
SAGGING MOMENT	-38373.2 tm	(19.1%)		131.5 m 164
HOGGING MOMENT	8071.6 tm	(8.9%)		24.8 m 31

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1276.6 t	(13.7%)	POSITION:	86.8 m 108
SHEAR FORCE (MAX,CORR)	1146.3 t	(12.6%)		116.0 m 145
SAGGING MOMENT	-53903.2 tm	(25.3%)		102.0 m 128
HOGGING MOMENT	5137.5 tm	(6.8%)		20.8 m 26

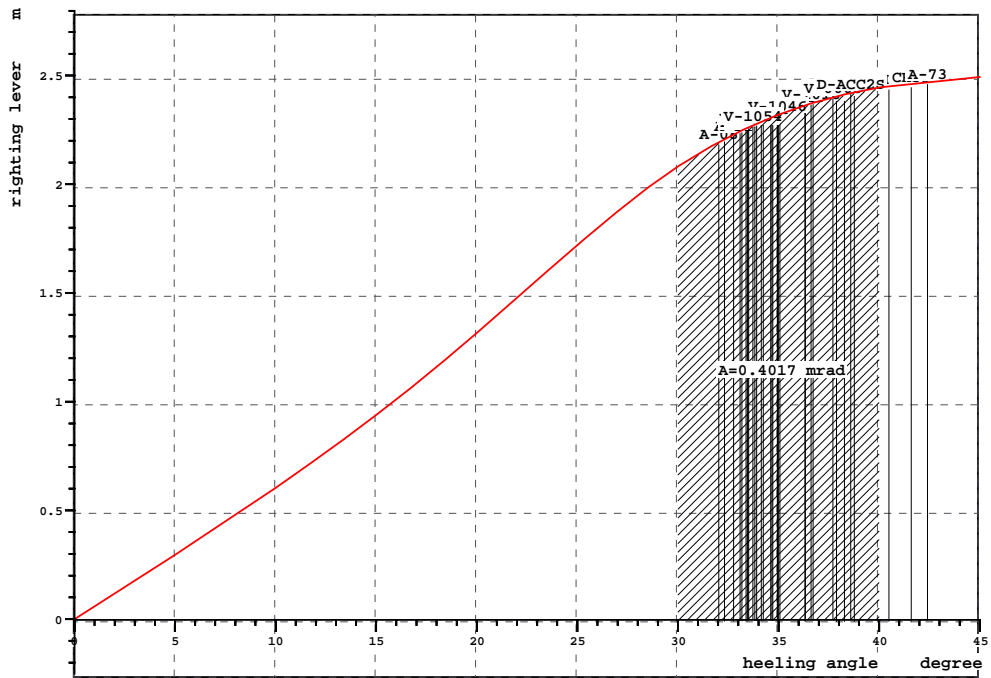
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1394.1 t	(15.5%)	POSITION:	58.0 m 73
SHEAR FORCE (MAX,CORR)	1010.1 t	(10.8%)		87.2 m 109
SAGGING MOMENT	-48106.9 tm	(22.6%)		74.6 m 93
HOGGING MOMENT	3118.3 tm	(5.1%)		16.6 m 21

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1366.0 t	(14.6%)	POSITION:	27.2 m 34
SHEAR FORCE (MAX,CORR)	1034.3 t	(11.4%)		58.2 m 73
SAGGING MOMENT	-20204.3 tm	(13.5%)		45.1 m 56
HOGGING MOMENT	5725.3 tm	(2.5%)		96.4 m 120

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.517	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	0.919	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.402	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	2.493	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	3.372	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.888		OK
GMD	GM > 1.20 m ref. damage stability	1.200	3.372	m	OK

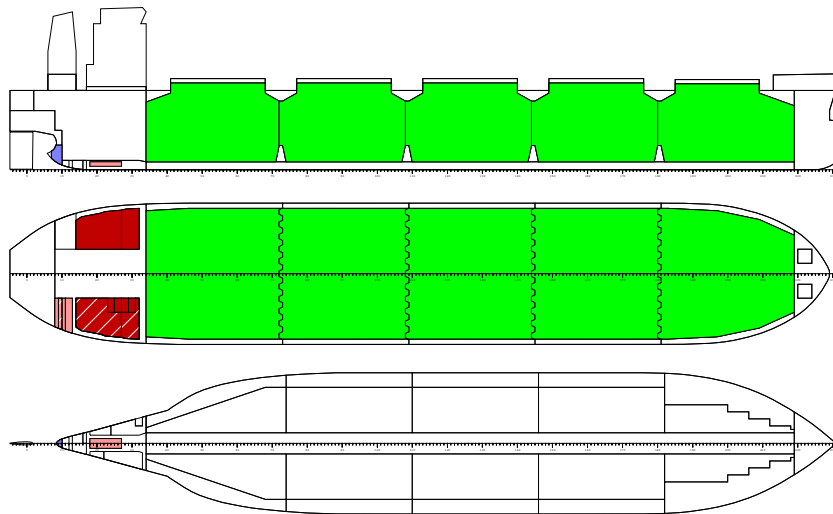
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-09, HOMOGEN SCANT - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	64772 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	11.71 m		
Draught aft (below keel)	13.41 m		
Mean draught (below keel)	12.56 m	Trim	1.70 m
KM above the moulded base	13.77 m		
KG0 (solid)	10.63 m	GM0 (solid)	3.14 m
Free surface correction	0.17 m		-0.17 m
KG (fluid)	10.80 m	GM (fluid)	2.97 m
Actual heel	-0.82 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.78)							
CH1	NO.1 CARGO HOLD	9701.5	100	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	10410.6	100	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	10412.0	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	10410.6	100	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	10351.8	100	43.26	0.00	10.52	0

TOTAL		51286.6		100.38	0.00	10.26	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		0.0		0.00	0.00	0.00	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53728.0	96.60	-0.06	10.38
Total weight	64772.1	94.47	-0.05	10.63

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.86

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.67 M

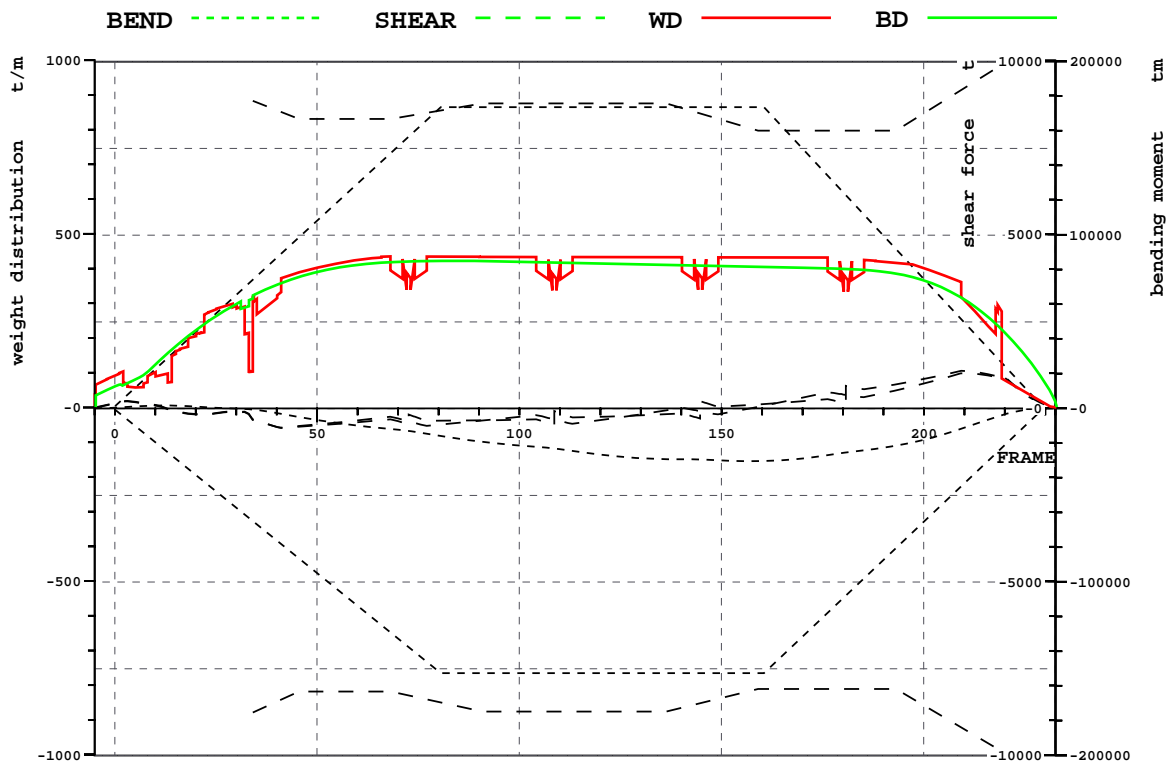
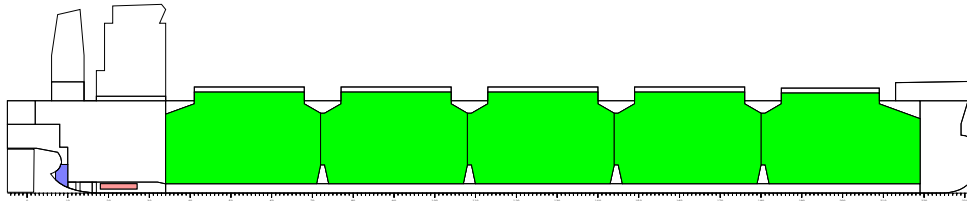
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.62 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.35 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.08 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 6.81 M

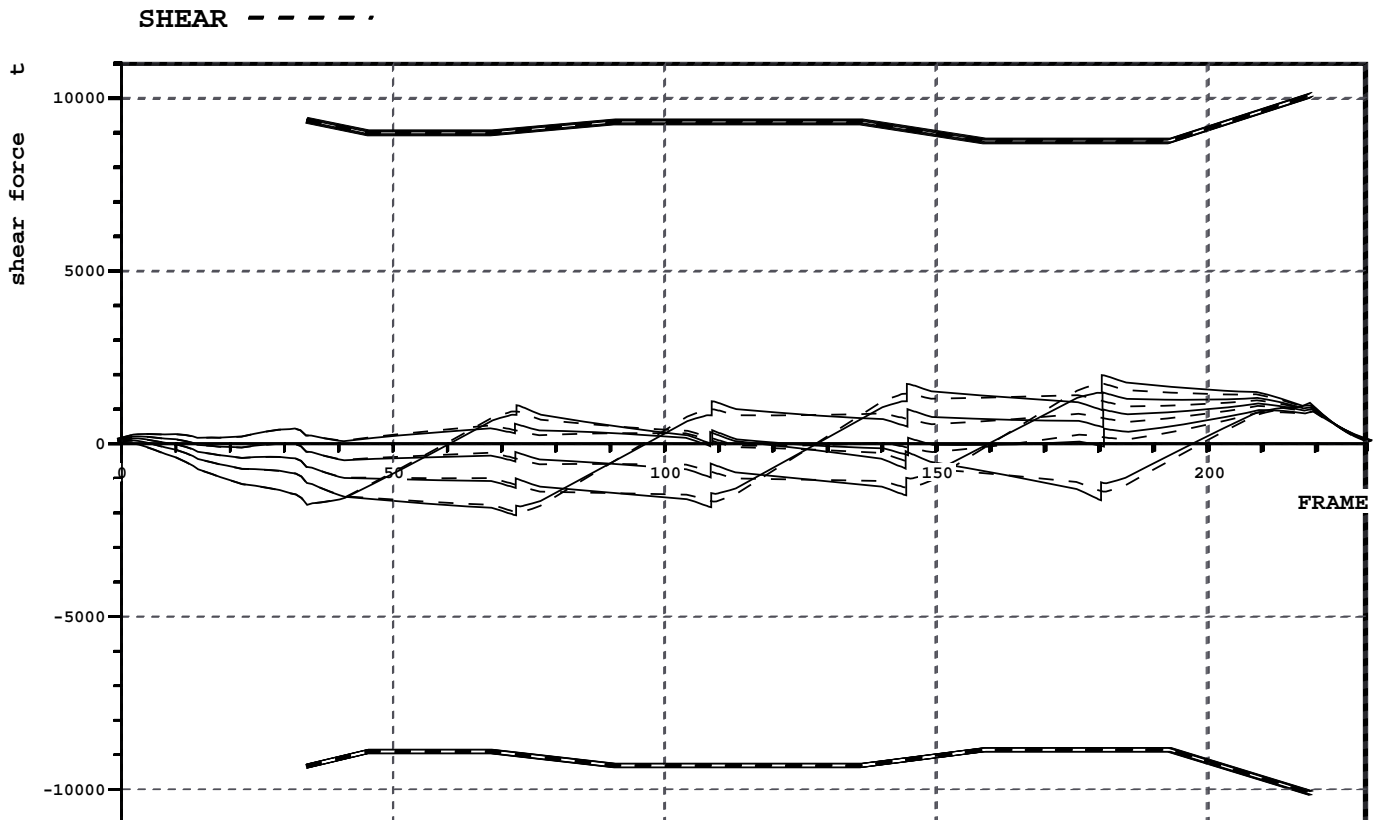
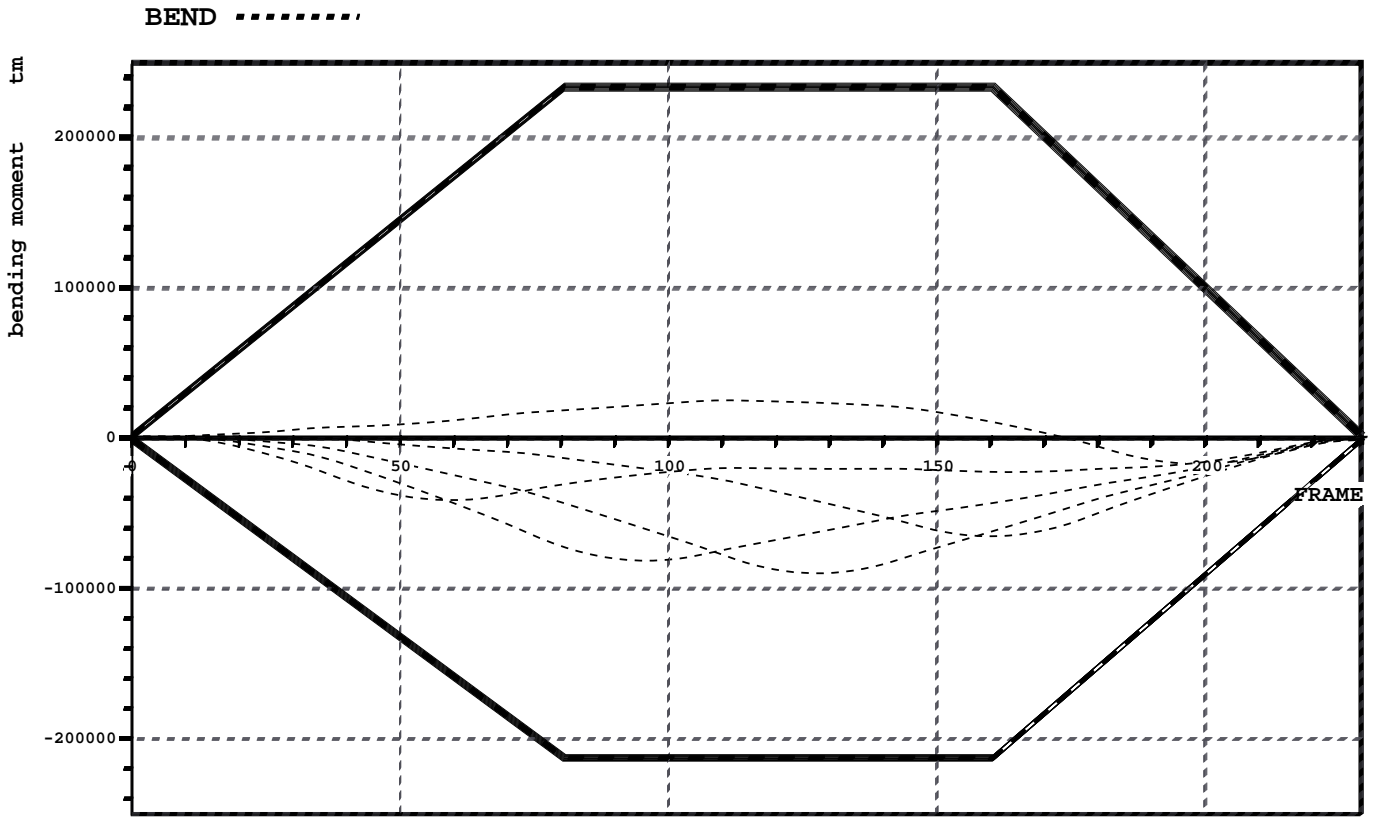
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-590.8 t	(7.0%)	POSITION: 32.8 m	41
SHEAR FORCE (MAX,CORR)	1055.6 t	(11.5%)	167.2 m	209
SAGGING MOMENT	-30511.1 tm	(20.0%)	125.5 m	157
HOGGING MOMENT	1669.5 tm	(5.9%)	10.1 m	13

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-672	73770	-8786	-346	-346	8830
72.50	-137807	-13021	156169	-8294	-383	-482	8395
72.50	-137811	-13021	156173	-8294	-383	-203	8395
108.50	-152905	-23128	173293	-8758	-334	-514	8758
108.50	-152905	-23128	173293	-8758	-334	-106	8758
144.50	-152905	-29490	173293	-8517	-93	-322	8468
144.50	-152905	-29490	173293	-8517	-93	183	8467
180.50	-108361	-25523	122770	-8106	376	100	7971
180.50	-108357	-25523	122765	-8106	376	620	7971
219.00	-23246	-4167	26231	-9904	960	960	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1621.6 t	(18.3%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	1199.7 t	(11.9%)		175.2 m 219
SAGGING MOMENT	-16016.5 tm	(17.0%)		159.1 m 199
HOGGING MOMENT	26266.8 tm	(11.3%)		88.6 m 111

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1485.6 t	(16.3%)	POSITION:	115.6 m 145
SHEAR FORCE (MAX,CORR)	1991.3 t	(22.7%)		144.4 m 181
SAGGING MOMENT	-64775.8 tm	(30.4%)		128.1 m 160
HOGGING MOMENT	1986.6 tm	(5.0%)		10.8 m 14

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1840.0 t	(19.8%)	POSITION:	86.8 m 108
SHEAR FORCE (MAX,CORR)	1728.3 t	(19.0%)		115.6 m 145
SAGGING MOMENT	-89944.2 tm	(42.2%)		102.0 m 128
HOGGING MOMENT	1030.7 tm	(3.6%)		7.7 m 10

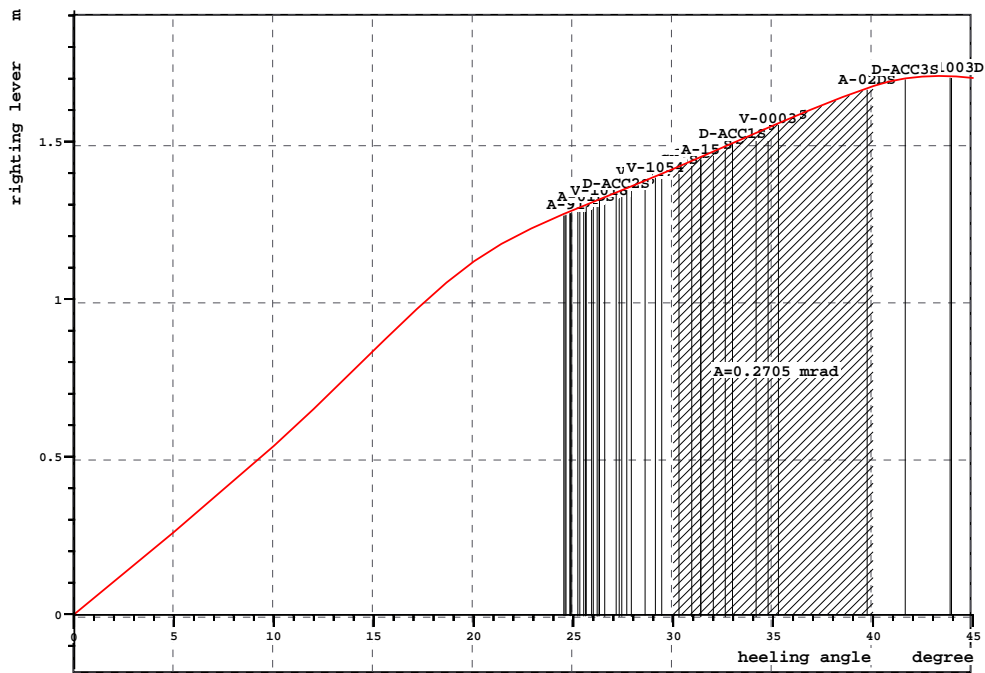
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2082.0 t	(23.2%)	POSITION:	58.0 m 73
SHEAR FORCE (MAX,CORR)	1215.6 t	(13.1%)		86.8 m 109
SAGGING MOMENT	-82069.3 tm	(38.5%)		76.7 m 96
HOGGING MOMENT	511.6 tm	(3.0%)		4.5 m 6

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1792.7 t	(19.2%)	POSITION:	27.2 m 34
SHEAR FORCE (MAX,CORR)	1089.6 t	(12.0%)		58.0 m 73
SAGGING MOMENT	-42345.0 tm	(27.0%)		47.3 m 59
HOGGING MOMENT	157.4 tm	(1.9%)		2.0 m 3

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.415	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	0.686	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.271	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	1.708	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	43.287	deg	OK
GM0.15	GM > 0.15 m	0.150	2.972	m	OK
IMOWEATHER	IMO weather criterion	1.000	3.594		OK
GMD	GM > 1.20 m ref. damage stability	1.200	2.972	m	OK

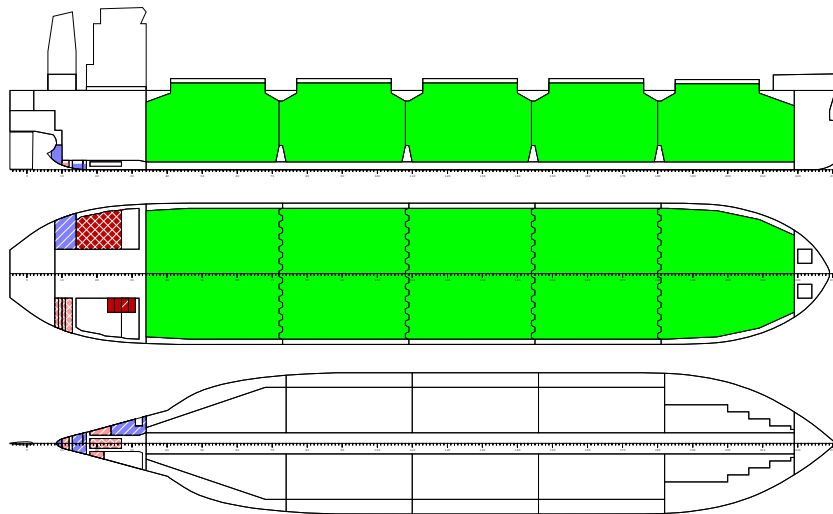
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-10, HOMOGEN SCANT - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	62722 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.32 m		
Draught aft (below keel)	12.15 m		
Mean draught (below keel)	12.23 m	Trim	-0.16 m
KM above the moulded base	13.68 m		
KG0 (solid)	10.54 m	GM0 (solid)	3.13 m
Free surface correction	0.16 m		-0.16 m
KG (fluid)	10.71 m	GM (fluid)	2.97 m
Actual heel	-0.09 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.78)							
CH1	NO.1 CARGO HOLD	9701.5	100	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	10410.6	100	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	10412.0	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	10410.6	100	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	10351.8	100	43.26	0.00	10.52	0

TOTAL		51286.6		100.38	0.00	10.26	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		0.0		0.00	0.00	0.00	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	51678.2	99.75	-0.01	10.27
Total weight	62722.3	96.99	-0.01	10.54

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.71

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.33 M

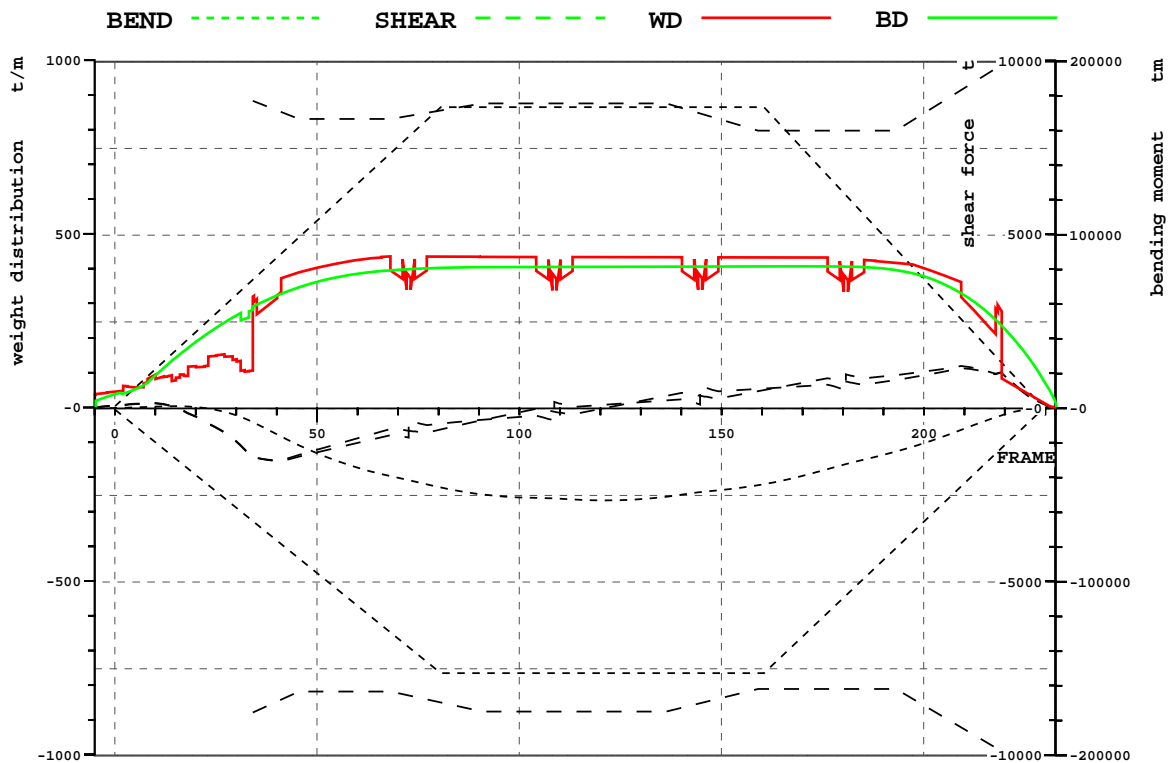
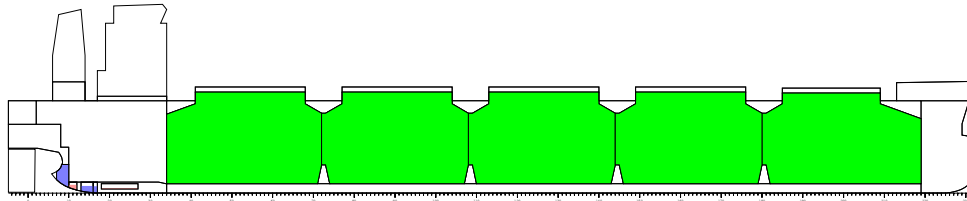
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.55 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.58 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.60 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.63 M

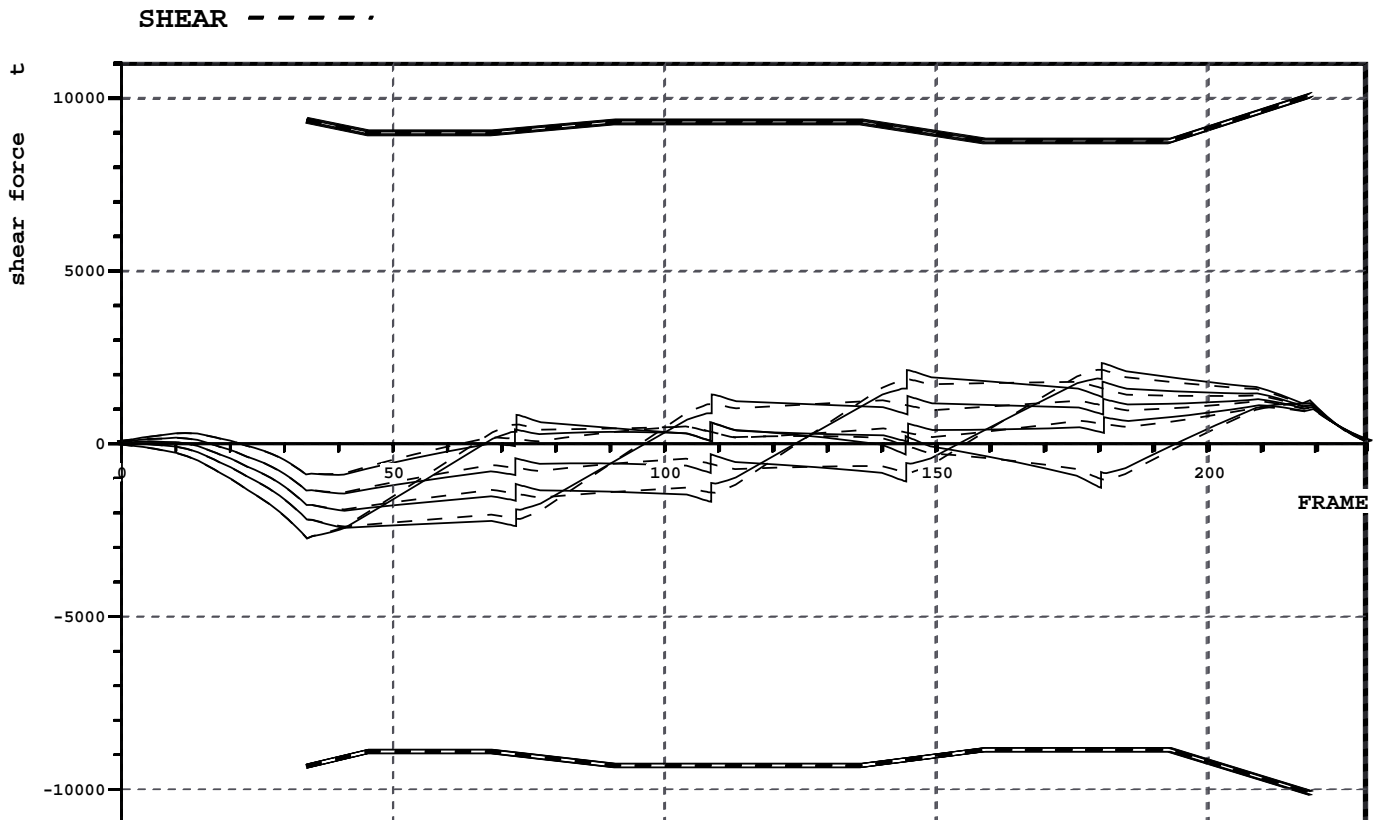
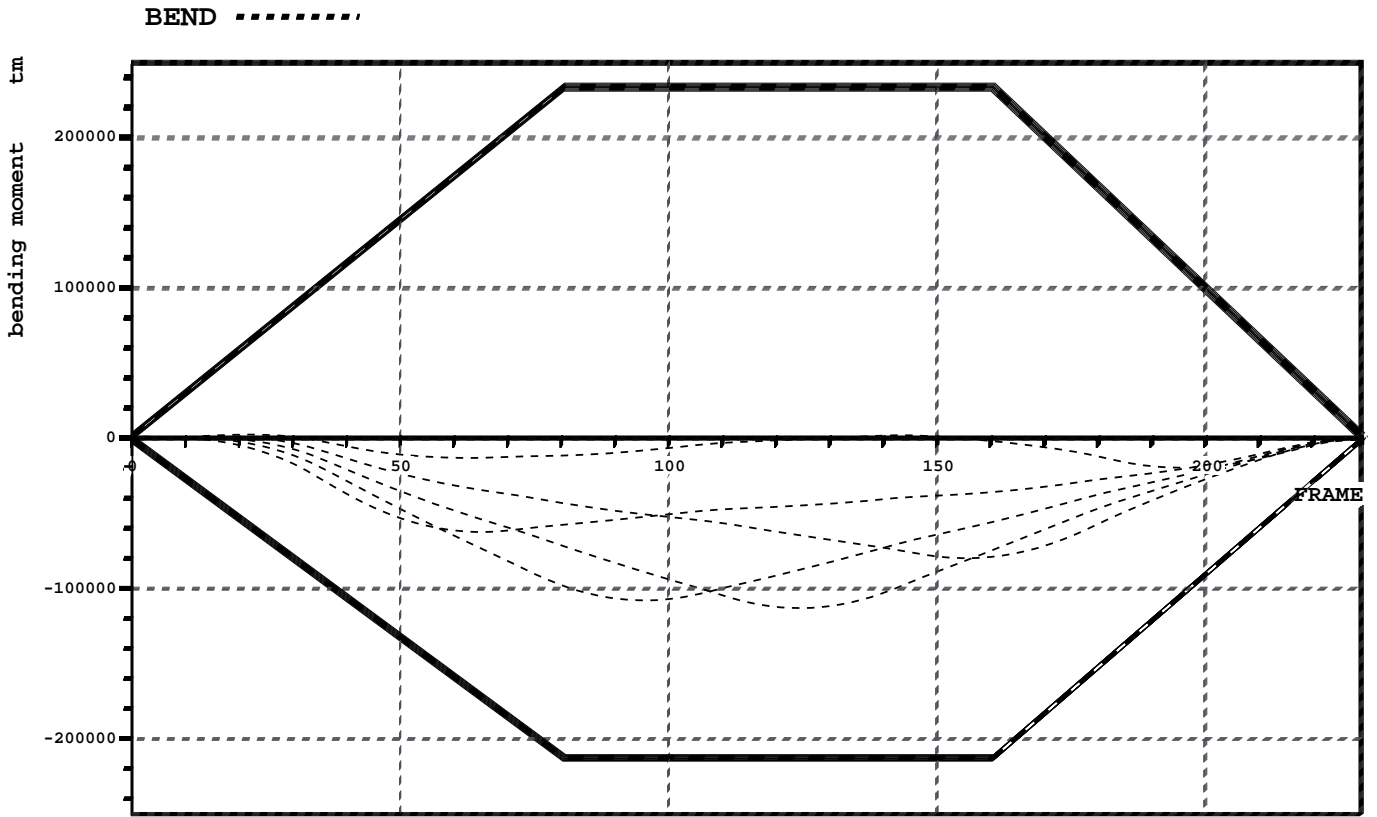
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-1551.5 t	(18.4%)	POSITION: 32.8 m	41
SHEAR FORCE (MAX,CORR)	1193.7 t	(13.1%)	167.2 m	209
SAGGING MOMENT	-53113.3 tm	(34.7%)	97.1 m	121
HOGGING MOMENT	1248.3 tm	(3.8%)	12.0 m	15

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-7885	73770	-8786	-1462	-1462	8830
72.50	-137807	-41317	156169	-8294	-657	-870	8395
72.50	-137811	-41318	156173	-8294	-657	-383	8395
108.50	-152905	-51916	173293	-8758	-109	-384	8758
108.50	-152905	-51916	173293	-8758	-109	161	8758
144.50	-152905	-48413	173293	-8517	352	82	8468
144.50	-152905	-48412	173293	-8517	352	617	8467
180.50	-108361	-32264	122770	-8106	762	497	7971
180.50	-108357	-32263	122765	-8106	762	953	7971
219.00	-23246	-4180	26231	-9904	1017	1017	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1260.9 t (14.2%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	1271.5 t (12.6%)		175.2 m	219
SAGGING MOMENT	-18644.7 tm (18.1%)		156.9 m	196
HOGGING MOMENT	3501.9 tm (5.5%)		17.3 m	22

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1438.1 t (15.9%)	POSITION:	32.8 m	41
SHEAR FORCE (MAX,CORR)	2337.5 t (26.7%)		144.4 m	181
SAGGING MOMENT	-79398.0 tm (37.3%)		124.4 m	156
HOGGING MOMENT	1613.1 tm (3.4%)		13.0 m	16

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1941.1 t (21.4%)	POSITION:	32.8 m	41
SHEAR FORCE (MAX,CORR)	2125.9 t (23.3%)		115.6 m	145
SAGGING MOMENT	-113115 tm (53.1%)		99.3 m	124
HOGGING MOMENT	503.0 tm (1.4%)		9.6 m	12

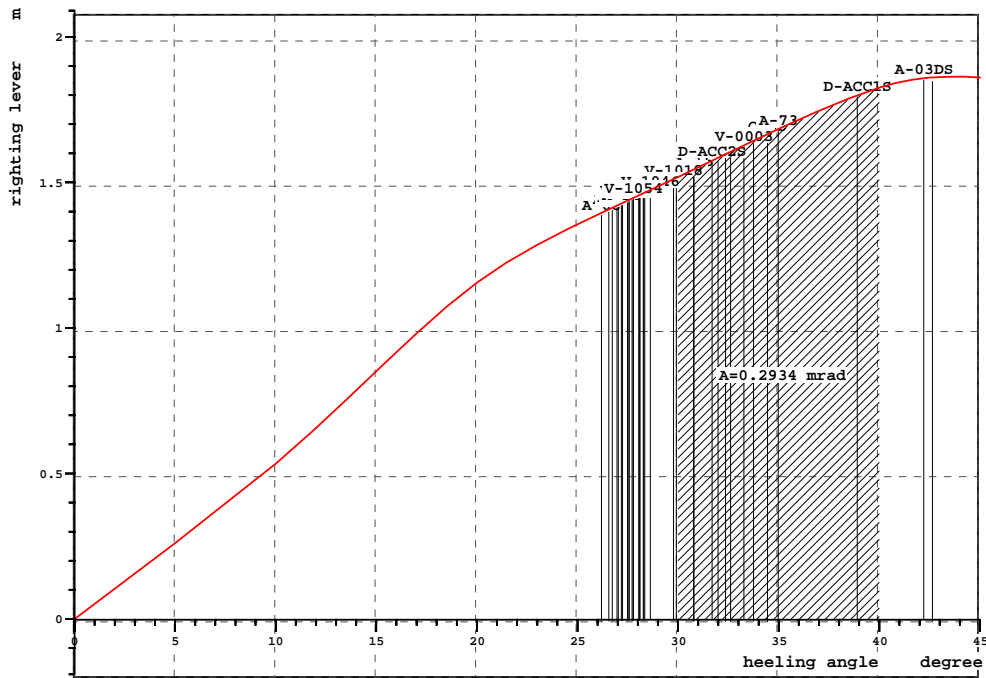
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2444.6 t (27.0%)	POSITION:	32.8 m	41
SHEAR FORCE (MAX,CORR)	1410.2 t (15.1%)		86.8 m	109
SAGGING MOMENT	-108483 tm (50.9%)		76.5 m	96
HOGGING MOMENT	66.6 tm (1.4%)		1.1 m	1

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2757.7 t (29.6%)	POSITION:	27.2 m	34
SHEAR FORCE (MAX,CORR)	1088.0 t (11.4%)		167.2 m	209
SAGGING MOMENT	-63516.2 tm (37.0%)		51.8 m	65
HOGGING MOMENT	32.8 tm (3.3%)		-1.6 m	-2

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.430	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	0.724	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.293	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	1.863	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	43.743	deg	OK
GM0.15	GM > 0.15 m	0.150	2.970	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.351		OK
GMD	GM > 1.20 m ref. damage stability	1.200	2.970	m	OK

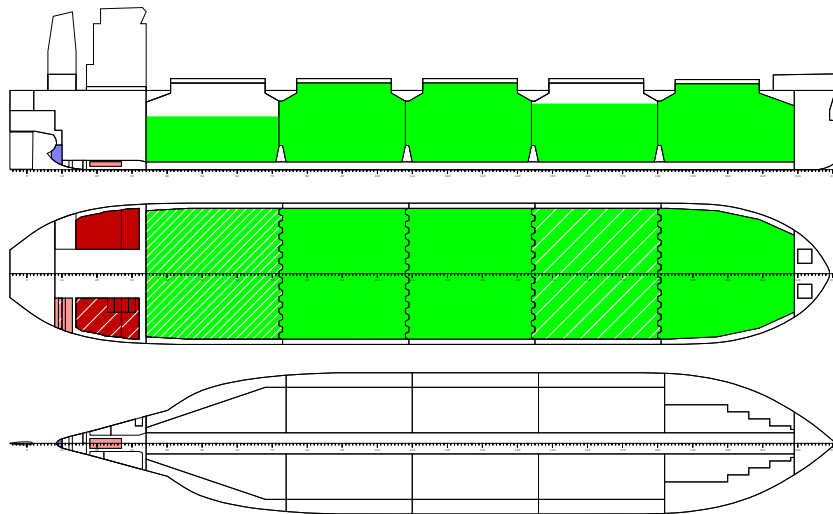
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-11, C0.80 PANA FW - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	60007 t	Density	0.998 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.04 m		
Draught aft (below keel)	12.04 m		
Mean draught (below keel)	12.04 m	Trim	0.00 m
KM above the moulded base	13.69 m		
KG0 (solid)	10.07 m	GM0 (solid)	3.62 m
Free surface correction	0.04 m		-0.04 m
KG (fluid)	10.11 m	GM (fluid)	3.58 m
Actual heel	-0.74 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.8)							
CH1	NO.1 CARGO HOLD	9950.3	100	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	8679.3	81	130.03	0.00	8.58	0
CH3	NO.3 CARGO HOLD	10679.0	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	10677.5	100	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	6535.7	62	43.44	0.00	7.45	0

TOTAL		46521.8		104.14	0.00	9.50	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	48963.2	99.81	-0.06	9.67
Total weight	60007.3	96.92	-0.05	10.07

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.73

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.58 M

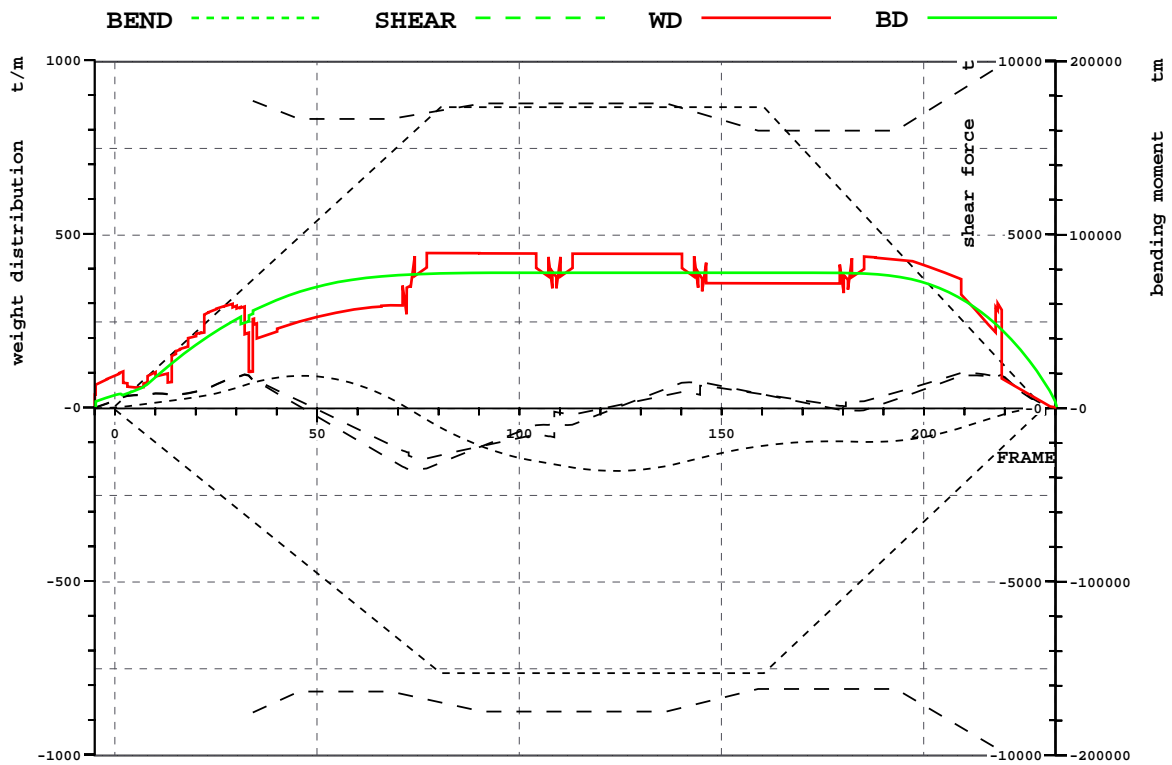
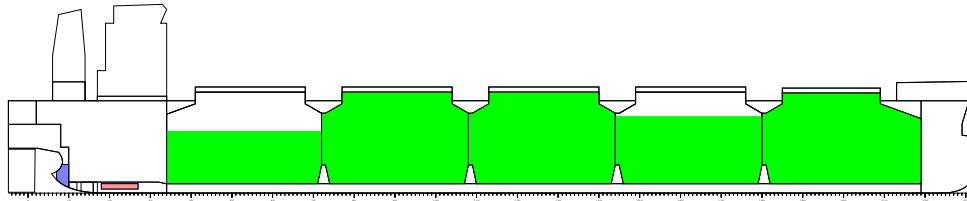
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.78 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.78 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.78 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.78 M

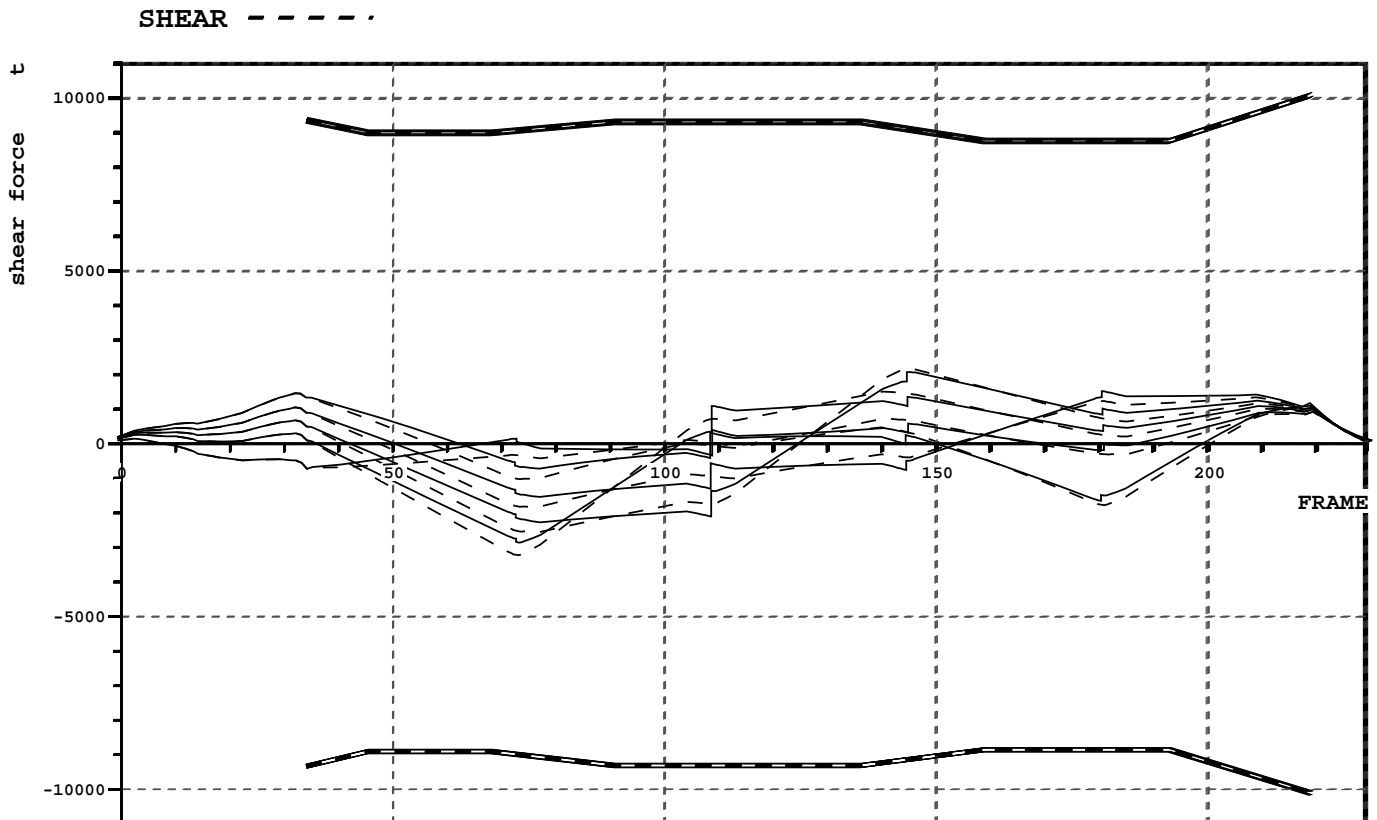
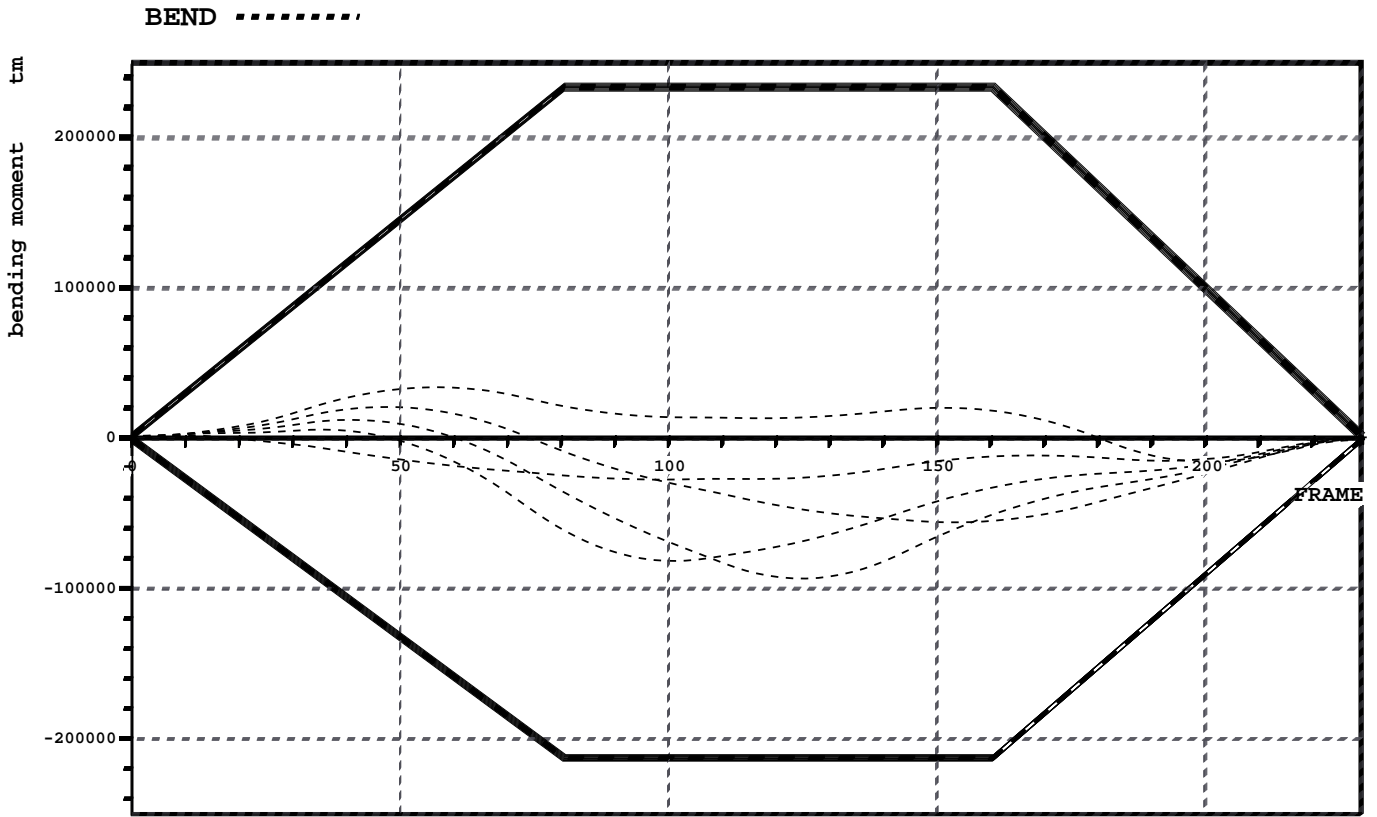
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-1470.3 t	(17.5%)	61.6 m	77
SHEAR FORCE (MAX,CORR)	997.0 t	(10.8%)	167.9 m	210
SAGGING MOMENT	-36121.1 tm	(23.6%)	99.0 m	124
HOGGING MOMENT	18713.1 tm	(18.8%)	36.9 m	46

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	14643	73770	-8786	796	796	8830
72.50	-137807	-105	156169	-8294	-1761	-1296	8395
72.50	-137811	-108	156173	-8294	-1761	-1392	8395
108.50	-152905	-32269	173293	-8758	-490	-860	8758
108.50	-152905	-32269	173293	-8758	-490	-120	8758
144.50	-152905	-28763	173293	-8517	731	361	8468
144.50	-152905	-28761	173293	-8517	731	625	8467
180.50	-108361	-19104	122770	-8106	-68	37	7971
180.50	-108357	-19104	122765	-8106	-68	210	7971
219.00	-23246	-3974	26231	-9904	952	952	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1639.1 t	(18.5%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	1481.3 t	(15.8%)		25.6 m 32
SAGGING MOMENT	-14668.4 tm	(16.6%)		160.6 m 201
HOGGING MOMENT	35000.5 tm	(21.2%)		45.5 m 57

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1535.8 t	(16.9%)	POSITION:	61.6 m 77
SHEAR FORCE (MAX,CORR)	1524.5 t	(17.4%)		144.4 m 181
SAGGING MOMENT	-55533.9 tm	(26.1%)		122.6 m 153
HOGGING MOMENT	21307.3 tm	(15.4%)		38.0 m 48

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2277.7 t	(25.1%)	POSITION:	61.6 m 77
SHEAR FORCE (MAX,CORR)	2072.3 t	(22.8%)		116.0 m 145
SAGGING MOMENT	-93449.6 tm	(43.9%)		99.7 m 125
HOGGING MOMENT	12160.5 tm	(10.3%)		32.5 m 41

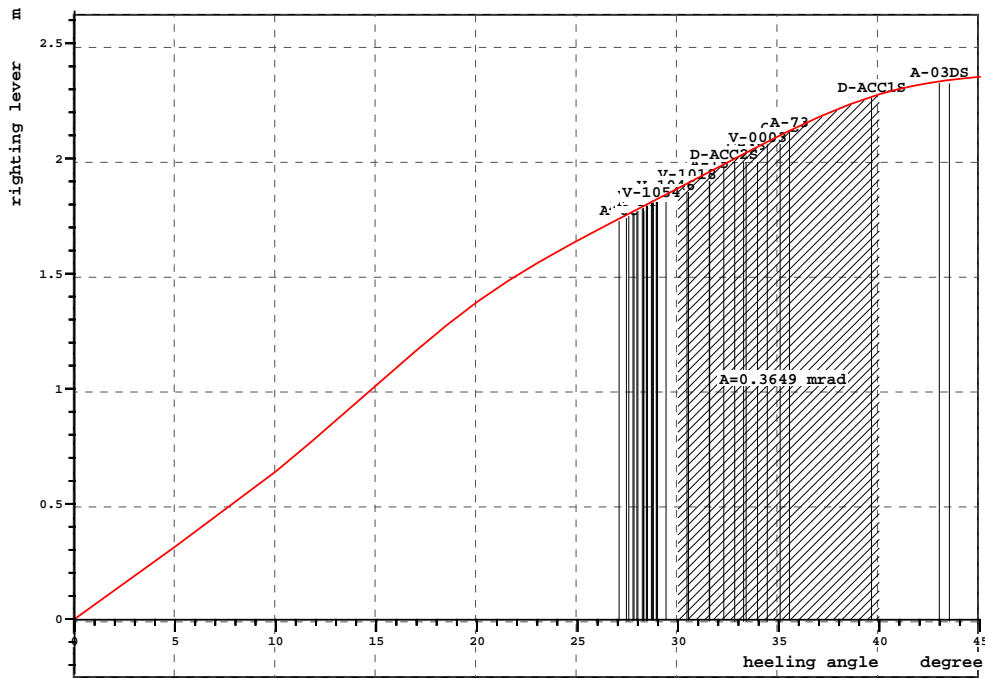
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2872.6 t	(31.9%)	POSITION:	58.4 m 73
SHEAR FORCE (MAX,CORR)	1341.2 t	(14.7%)		115.6 m 145
SAGGING MOMENT	-82284.4 tm	(38.6%)		80.6 m 101
HOGGING MOMENT	5088.1 tm	(4.9%)		28.3 m 35

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-746.4 t	(8.0%)	POSITION:	27.2 m 34
SHEAR FORCE (MAX,CORR)	902.1 t	(8.9%)		175.2 m 219
SAGGING MOMENT	-28716.1 tm	(13.5%)		79.1 m 99
HOGGING MOMENT	803.1 tm	(3.6%)		5.9 m 7

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.518	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	0.883	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.365	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	2.355	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	3.584	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.125		OK
GMD	GM > 1.20 m ref. damage stability	1.200	3.584	m	OK

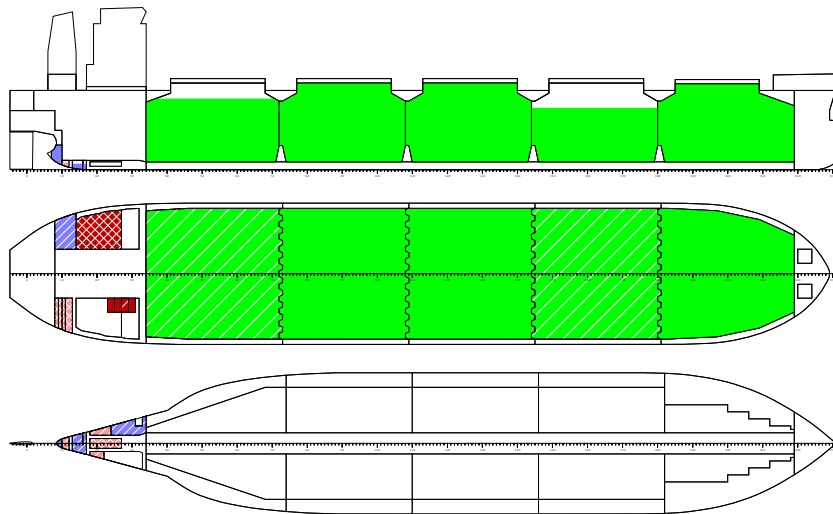
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-12, C0.80 PANA FW - DEP 10 %

FLOATING POSITION / calculation method: free trim

Displacement	59993 t	Density	0.998 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.04 m		
Draught aft (below keel)	12.04 m		
Mean draught (below keel)	12.04 m	Trim	0.00 m
KM above the moulded base	13.69 m		
KG0 (solid)	10.09 m	GM0 (solid)	3.60 m
Free surface correction	0.03 m		-0.03 m
KG (fluid)	10.12 m	GM (fluid)	3.57 m
Actual heel	-0.08 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.8)							
CH1	NO.1 CARGO HOLD	9950.3	100	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	8078.0	76	130.03	0.00	8.13	0
CH3	NO.3 CARGO HOLD	10679.0	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	10677.5	100	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	9172.0	86	43.22	0.00	9.35	0

TOTAL		48556.8		100.48	0.00	9.68	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	48948.5	99.82	-0.01	9.70
Total weight	59992.6	96.92	-0.01	10.09

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.73

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.58 M

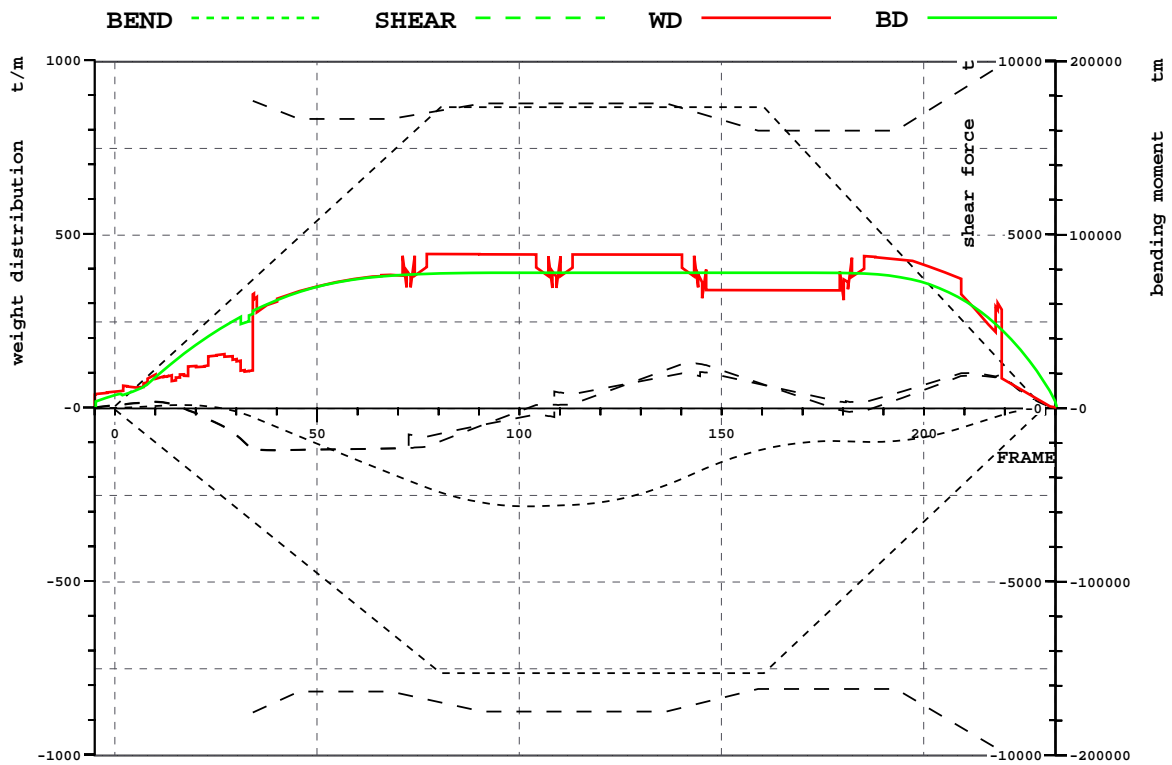
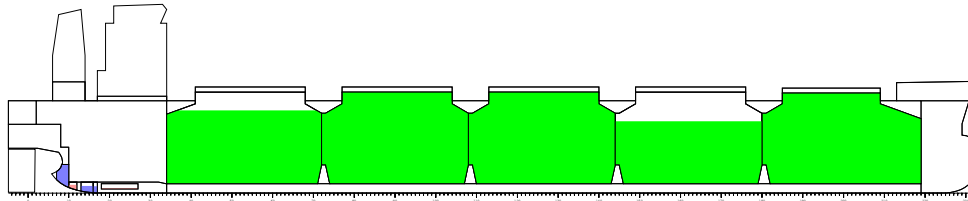
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.78 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.78 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.78 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.78 M

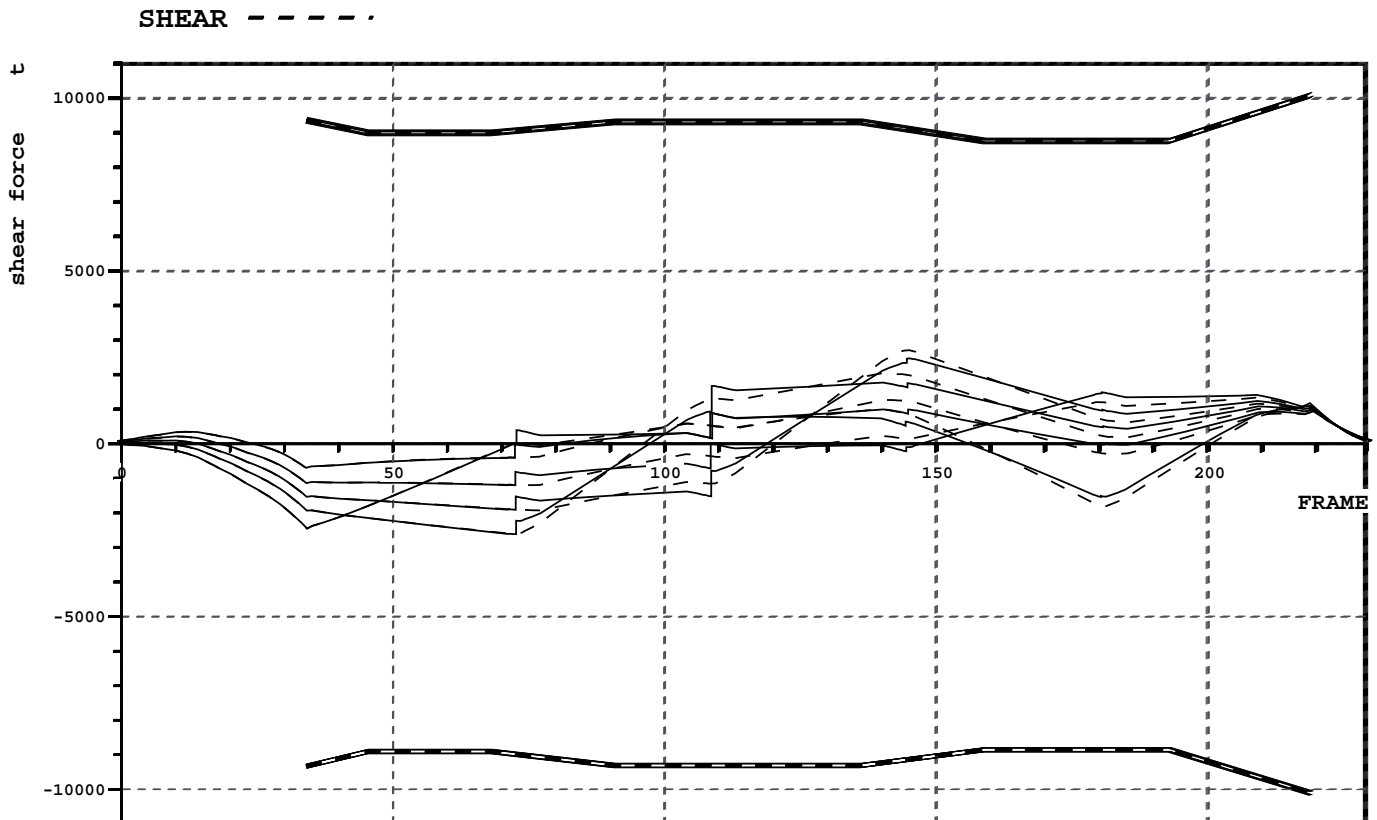
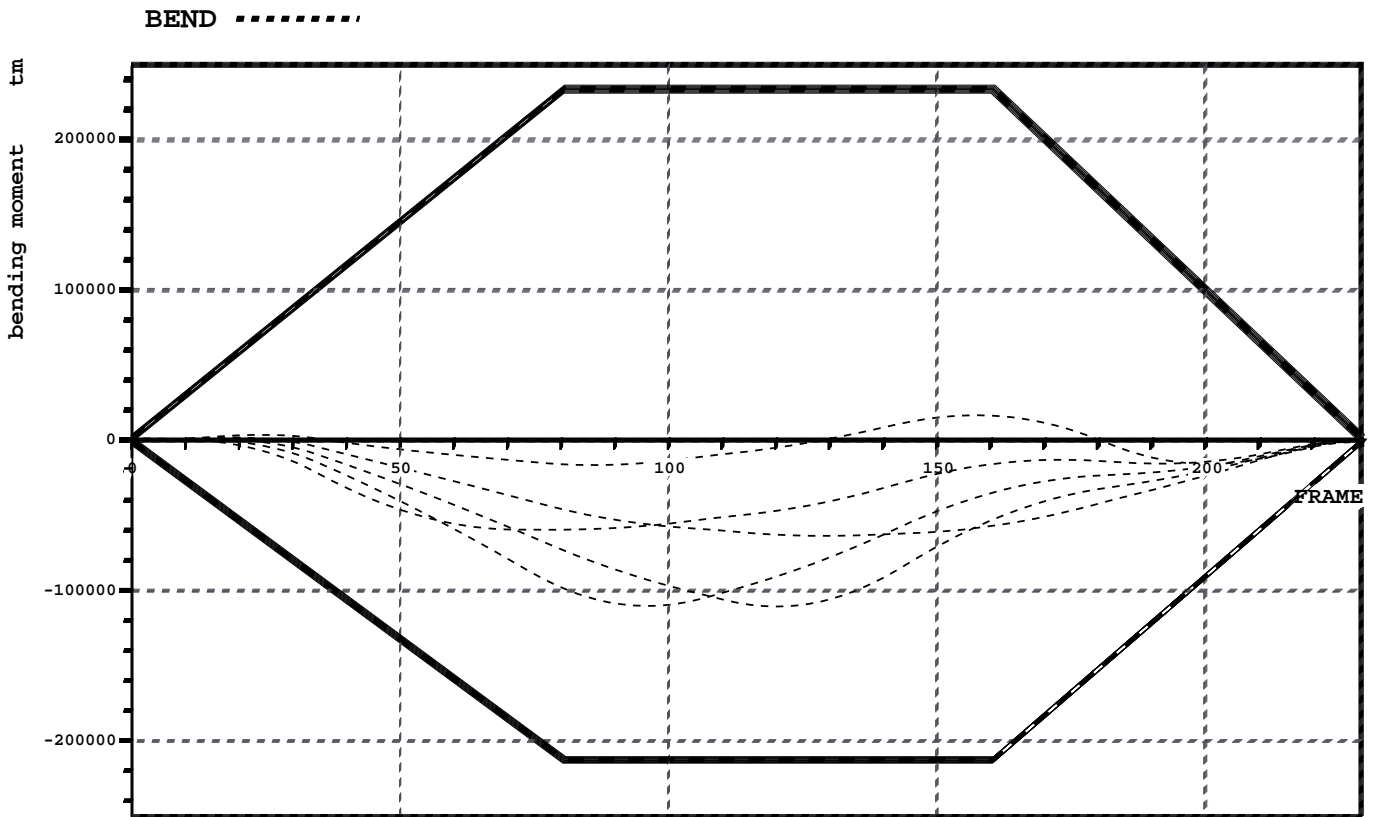
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-1242.1 t	(14.1%)	27.2 m	34
SHEAR FORCE (MAX,CORR)	1019.3 t	(12.0%)	115.6 m	145
SAGGING MOMENT	-56533.9 tm	(37.0%)	81.7 m	102
HOGGING MOMENT	1889.9 tm	(5.2%)	13.3 m	17

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-5029	73770	-8786	-1242	-1242	8830
72.50	-137807	-41563	156169	-8294	-1149	-1167	8395
72.50	-137811	-41565	156173	-8294	-1149	-779	8395
108.50	-152905	-56095	173293	-8758	92	-278	8758
108.50	-152905	-56095	173293	-8758	92	463	8758
144.50	-152905	-36181	173293	-8517	1267	897	8468
144.50	-152905	-36179	173293	-8517	1267	1019	8467
180.50	-108361	-18965	122770	-8106	-98	150	7971
180.50	-108357	-18966	122765	-8106	-99	180	7971
219.00	-23246	-4065	26231	-9904	951	951	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1526.3 t	(17.2%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	1189.6 t	(11.8%)		175.2 m 219
SAGGING MOMENT	-15497.3 tm	(7.3%)		68.8 m 86
HOGGING MOMENT	17670.9 tm	(7.6%)		125.9 m 157

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1196.5 t	(13.4%)	POSITION:	56.8 m 71
SHEAR FORCE (MAX,CORR)	1494.6 t	(17.1%)		144.4 m 181
SAGGING MOMENT	-63225.5 tm	(29.7%)		103.4 m 129
HOGGING MOMENT	2343.7 tm	(4.4%)		14.4 m 18

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1917.2 t	(21.3%)	POSITION:	58.0 m 73
SHEAR FORCE (MAX,CORR)	2464.7 t	(27.1%)		116.0 m 145
SAGGING MOMENT	-110744 tm	(52.0%)		96.0 m 120
HOGGING MOMENT	1053.0 tm	(2.5%)		11.2 m 14

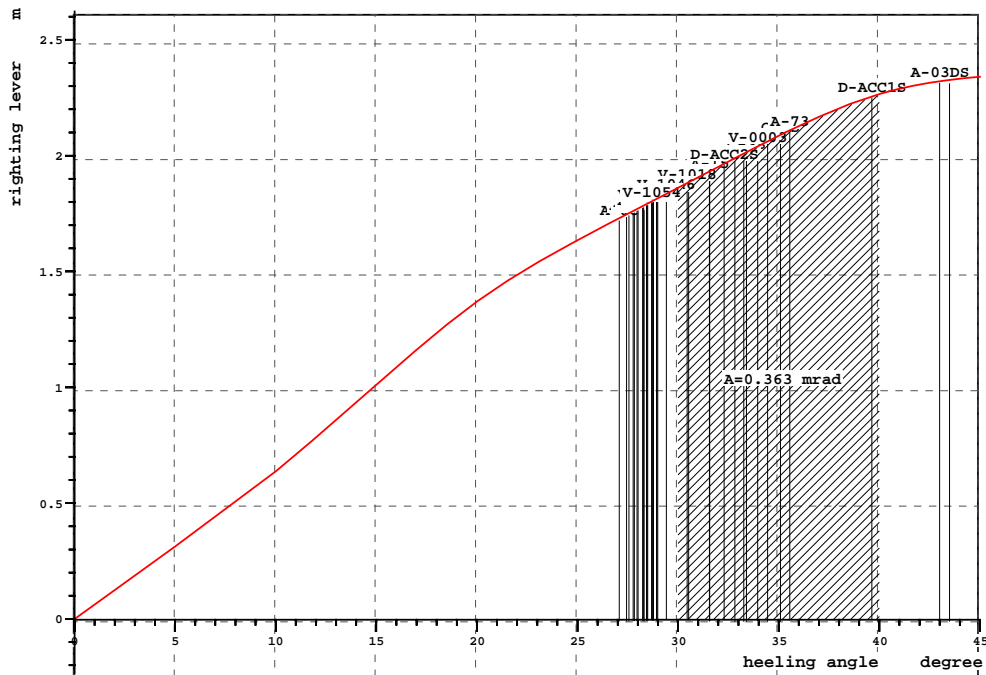
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2629.4 t	(29.3%)	POSITION:	57.6 m 72
SHEAR FORCE (MAX,CORR)	1754.5 t	(19.0%)		112.0 m 140
SAGGING MOMENT	-110895 tm	(52.1%)		76.7 m 96
HOGGING MOMENT	264.1 tm	(1.2%)		5.6 m 7

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2474.9 t	(26.5%)	POSITION:	27.2 m 34
SHEAR FORCE (MAX,CORR)	968.5 t	(10.5%)		112.0 m 140
SAGGING MOMENT	-60686.4 tm	(29.1%)		63.1 m 79
HOGGING MOMENT	75.7 tm	(7.6%)		-0.2 m -0

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.516	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	0.879	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.363	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	2.341	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	3.570	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.124		OK
GMD	GM > 1.20 m ref. damage stability	1.200	3.570	m	OK

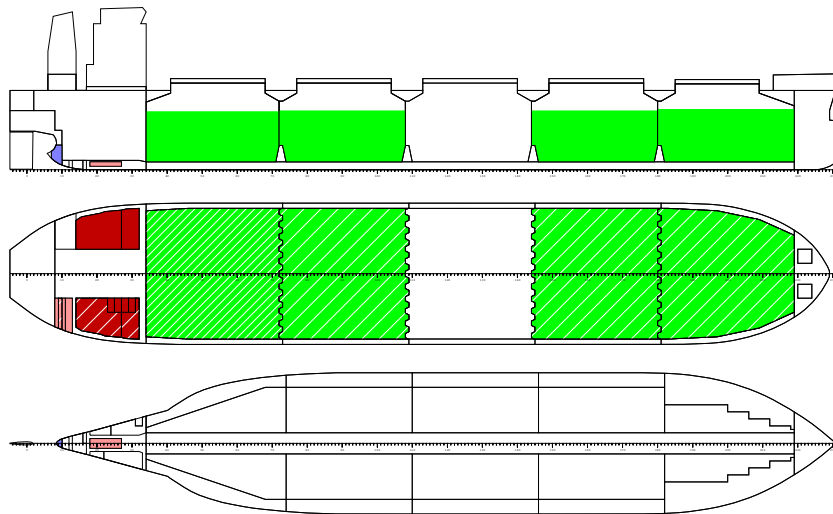
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-13, C1.35 CH 1245 - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	64603 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	11.97 m		
Draught aft (below keel)	13.11 m		
Mean draught (below keel)	12.54 m	Trim	1.14 m
KM above the moulded base	13.74 m		
KG0 (solid)	8.81 m	GM0 (solid)	4.93 m
Free surface correction	0.17 m		-0.17 m
KG (fluid)	8.98 m	GM (fluid)	4.76 m
Actual heel	-0.52 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Ore (RHO=1.35)							
CH1	NO.1 CARGO HOLD	12599.7	75	158.71	0.00	8.04	0
CH2	NO.2 CARGO HOLD	13020.4	72	130.03	0.00	7.86	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	13020.3	72	72.43	0.00	7.86	0
CH5	NO.5 CARGO HOLD	12477.3	70	43.35	0.00	8.07	0

TOTAL		51117.7		101.27	0.00	7.96	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		0.0		0.00	0.00	0.00	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53559.1	97.44	-0.06	8.19
Total weight	64603.2	95.16	-0.05	8.81

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.80

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.49 M

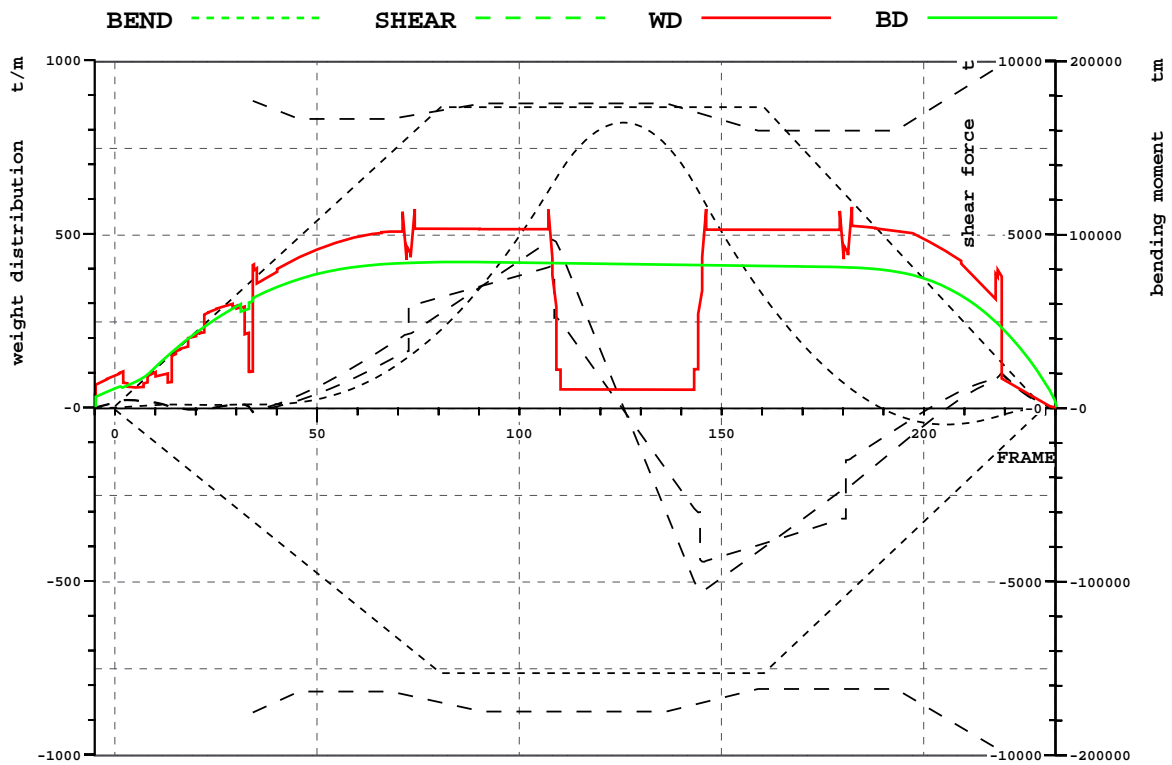
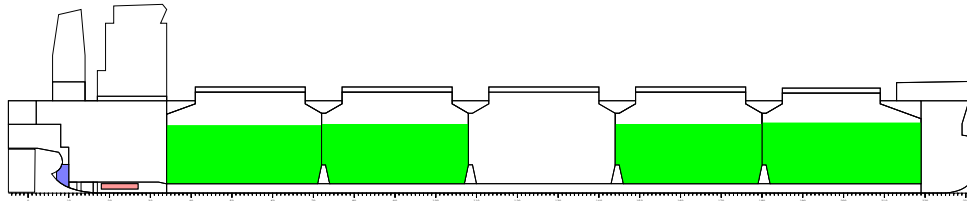
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.52 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.34 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.16 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 6.98 M

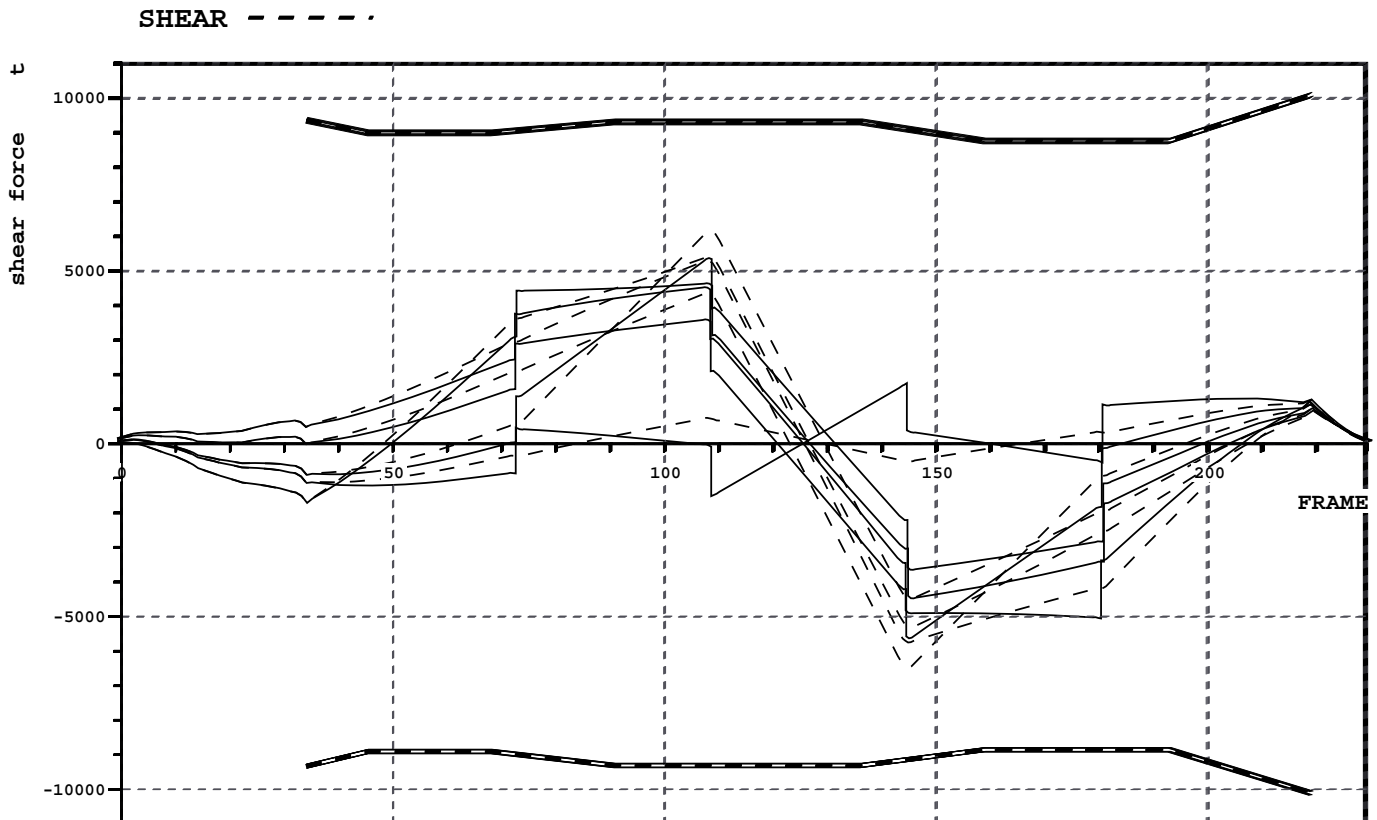
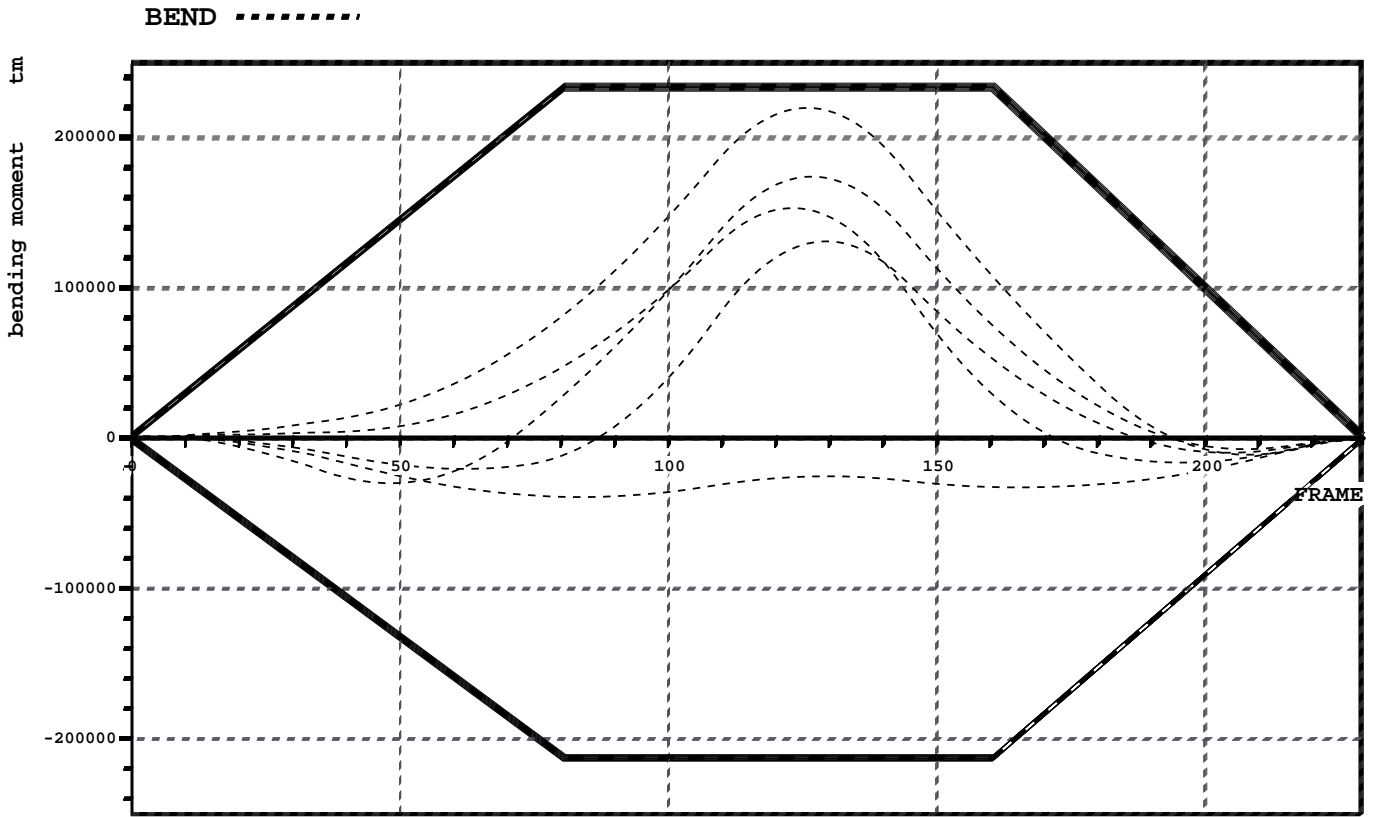
CHECK OF LONGITUDINAL STRENGTH



		X	FRAME
SHEAR FORCE (MIN,CORR)	-4447.2 t (52.3%)	116.2 m	145
SHEAR FORCE (MAX,CORR)	4062.1 t (46.4%)	86.2 m	108
SAGGING MOMENT	-9408.8 tm (17.9%)	164.6 m	206
HOGGING MOMENT	164629.2 tm (95.0%)	100.5 m	126

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	2288	73770	-8786	-125	-125	8830
72.50	-137807	29522	156169	-8294	2133	1621	8395
72.50	-137811	29525	156173	-8294	2133	2947	8395
108.50	-152905	130432	173293	-8758	4826	4012	8758
108.50	-152905	130435	173293	-8758	4826	2577	8758
144.50	-152905	124086	173293	-8517	-5262	-3013	8468
144.50	-152905	124077	173293	-8517	-5262	-4383	8467
180.50	-108361	13872	122770	-8106	-2324	-3203	7971
180.50	-108357	13868	122765	-8106	-2324	-1519	7971
219.00	-23246	-4146	26231	-9904	986	986	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5044.4 t	(57.0%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	4548.8 t	(48.9%)		86.0 m 108
SAGGING MOMENT	-9998.1 tm	(15.5%)		166.8 m 209
HOGGING MOMENT	221020.4 tm	(94.8%)		100.8 m 126

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5628.3 t	(61.6%)	POSITION:	116.0 m 145
SHEAR FORCE (MAX,CORR)	3602.3 t	(38.7%)		86.0 m 108
SAGGING MOMENT	-15759.3 tm	(15.1%)		156.5 m 196
HOGGING MOMENT	153681.3 tm	(65.9%)		98.6 m 123

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1522.5 t	(16.4%)	POSITION:	86.8 m 109
SHEAR FORCE (MAX,CORR)	1750.9 t	(19.2%)		115.6 m 145
SAGGING MOMENT	-39273.2 tm	(18.4%)		66.8 m 84
HOGGING MOMENT	521.8 tm	(2.9%)		4.8 m 6

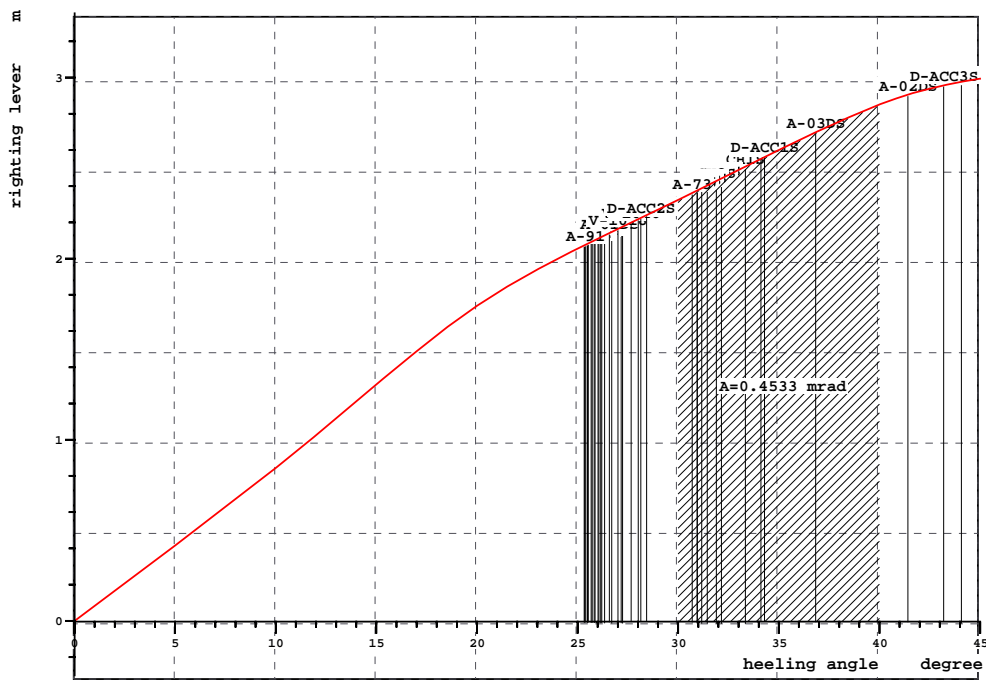
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3660.8 t	(40.1%)	POSITION:	116.4 m 145
SHEAR FORCE (MAX,CORR)	5355.1 t	(57.5%)		86.4 m 108
SAGGING MOMENT	-21069.7 tm	(12.8%)		49.6 m 62
HOGGING MOMENT	130258.4 tm	(55.9%)		103.4 m 129

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4491.3 t	(49.2%)	POSITION:	116.2 m 145
SHEAR FORCE (MAX,CORR)	4613.8 t	(49.6%)		86.0 m 108
SAGGING MOMENT	-31102.1 tm	(24.4%)		38.4 m 48
HOGGING MOMENT	172674.1 tm	(74.0%)		101.2 m 126

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.658	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.112	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.453	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	2.994	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	4.761	m	OK
IMOWEATHER	IMO weather criterion	1.000	3.570		OK
GMD	GM > 1.20 m ref. damage stability	1.200	4.761	m	OK

		FUEL TANK OPERATIONS										BALLAST OPERATIONS								
		DO deep tank S	DO serv and sett	FW tanks	HFO 1 P & S	HFO 2 P & S	HFO serv & sett	LO tanks	Misc oil	Misc water	Total tanks		APT	BW No. 5/TECH	BW No. 4	BW No. 3	BW No. 2	BW No. 1	FPT	Total BW tanks
		ton	ton	ton	ton	ton	ton	ton	ton	ton	ton		ton	ton	ton	ton	ton	ton	ton	ton
Dep. condition		138,7	56,4	239,1	723,7	937,9	168,4	113,5	0,0	8,8	2.386,5	WT	0	0	0	0	0	0	0	0
												DB		0	0	0	0	0	0	0
STEP 1	Change	-116,7	-8,4	-139,1	-723,7	-341,5	0,0	-62,4	4,1	45,0	-1.342,7	WT	Change							
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8	1.043,8	DB	Total							
STEP 2	Change										0	WT	Change	658						658
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8	1.043,8	DB	Total							
STEP 3	Change											WT	Change							
	Total											DB	Total							
STEP 4	Change											WT	Change							
	Total											DB	Total							
STEP 5	Change											WT	Change							
	Total											DB	Total							
STEP 6	Change											WT	Change							
	Total											DB	Total							
Arr. condition		0,0	25,0	15,0	0,0	20,0	168,4	11,3	8,1	98,9	346,7	WT	658	0	0	0	0	0	0	658
												DB		0	0	0	0	0	0	0

SUMMARY OF BALLASTING OPERATIONS DURING VOYAGE					CONDITION DRAUGHTS AND LONG. STRENGTH								
Name	Class ID		Initial condition:		L*13		d aft (m)	Trim (m)	d fwd (m)	Intact		Flooding	
			Final condition:		L*14	Dep. condition	13,11	1,14	11,97	S.F. (%)	B.M. (%)	S.F. (%)	B.M. (%)
	Cond. no. L*13		Cond. no. L*14		NOTES: At each step in the ballasting operation the allowable hull girder shear force and bending moment must not be exceeded. For other initial conditions or if another ballasting sequence is chosen, the vessels loadcomputer can be used to simulate the proces to make sure that strength is not exceeded during the operation. Reference: CB40.3580.11/055-01: Preliminary Stability Manual - M/S Bulkcarrier	Step 1	12,30	-0,05	12,35	49,20	85,90	58,80	89,30
Lightweight	11.044,1	ton	11.044,1	ton		Step 2	12,77	0,67	12,10	51,60	92,90	61,00	93,50
Cargo	51.117,7	ton	51.117,7	ton		Step 3							
Crew, stores	55	ton	45	ton		Step 4							
Fuel etc	2.387	ton	347	ton		Step 5							
Ballast	0	ton	658	ton		Step 6							
Displacement	64.603	ton	63.212	ton		Arr. condition	12,32	0,01	12,31	49,80	87,60	59,30	90,30

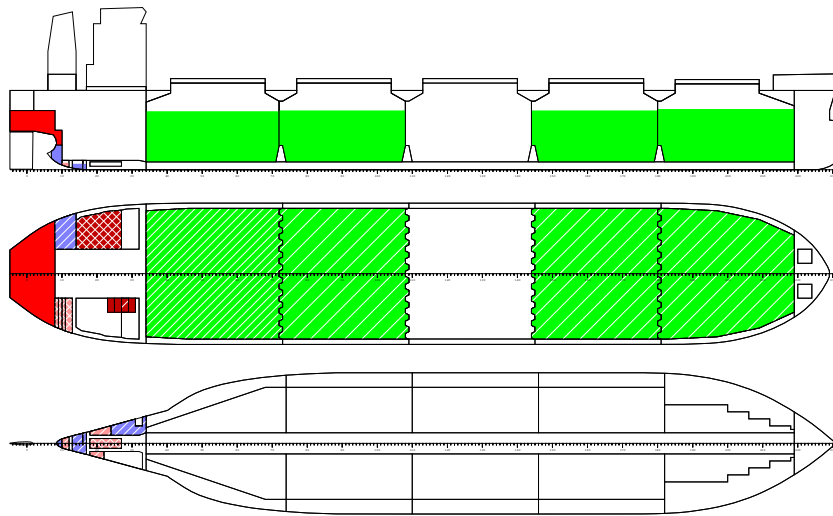
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-14, C1.35 CH 1245 - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	63212 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.31 m		
Draught aft (below keel)	12.32 m		
Mean draught (below keel)	12.32 m	Trim	0.01 m
KM above the moulded base	13.69 m		
KG0 (solid)	8.70 m	GM0 (solid)	4.99 m
Free surface correction	0.16 m		-0.16 m
KG (fluid)	8.86 m	GM (fluid)	4.83 m
Actual heel	-0.06 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Ore (RHO=1.35)							
CH1	NO.1 CARGO HOLD	12599.7	75	158.71	0.00	8.04	0
CH2	NO.2 CARGO HOLD	13020.4	72	130.03	0.00	7.86	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	13020.3	72	72.43	0.00	7.86	0
CH5	NO.5 CARGO HOLD	12477.3	70	43.35	0.00	8.07	0

TOTAL		51117.7		101.27	0.00	7.96	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	8540

SUBTOTAL		658.2		2.33	0.00	11.53	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	52167.5	99.39	-0.01	8.03
Total weight	63211.6	96.71	-0.01	8.70

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.72

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.31 M

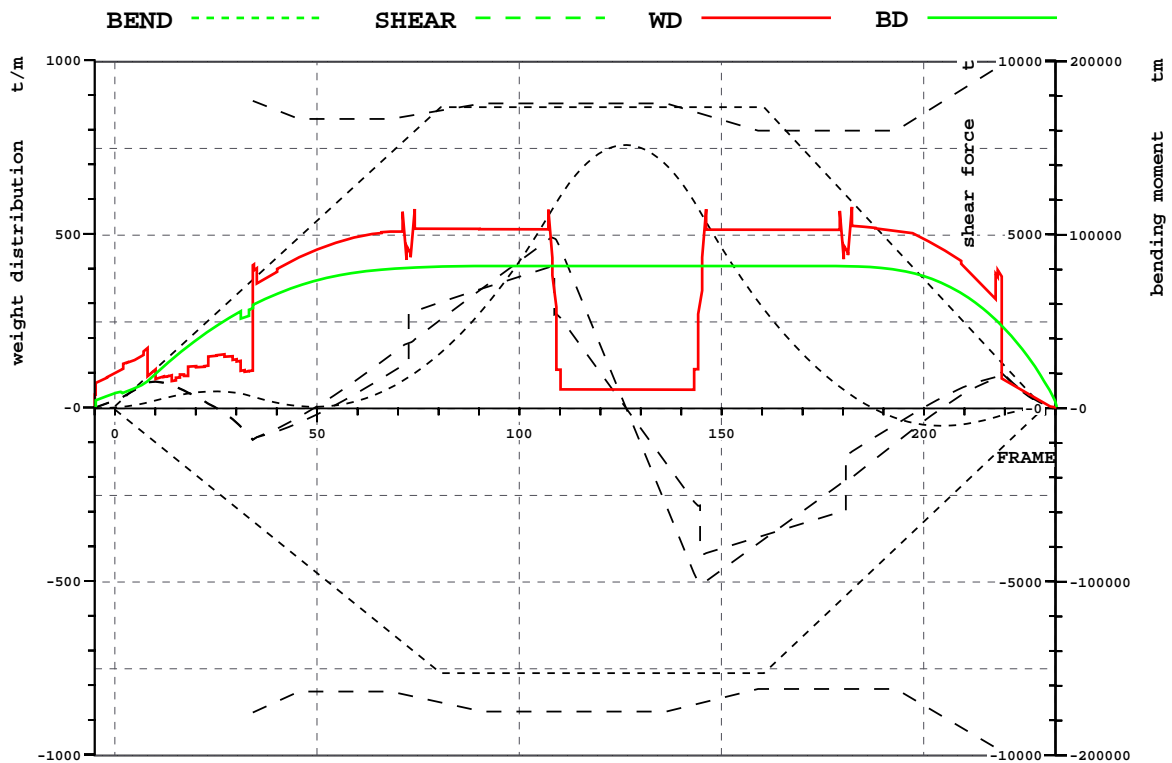
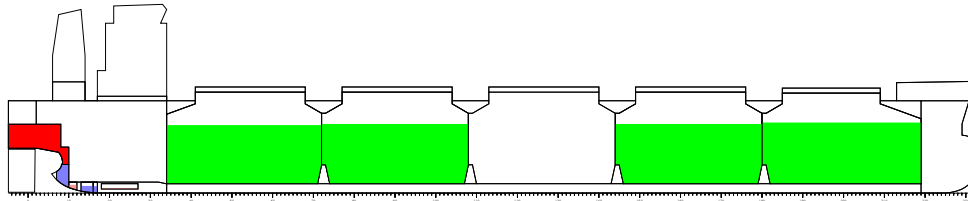
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.51 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.50 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.50 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.50 M

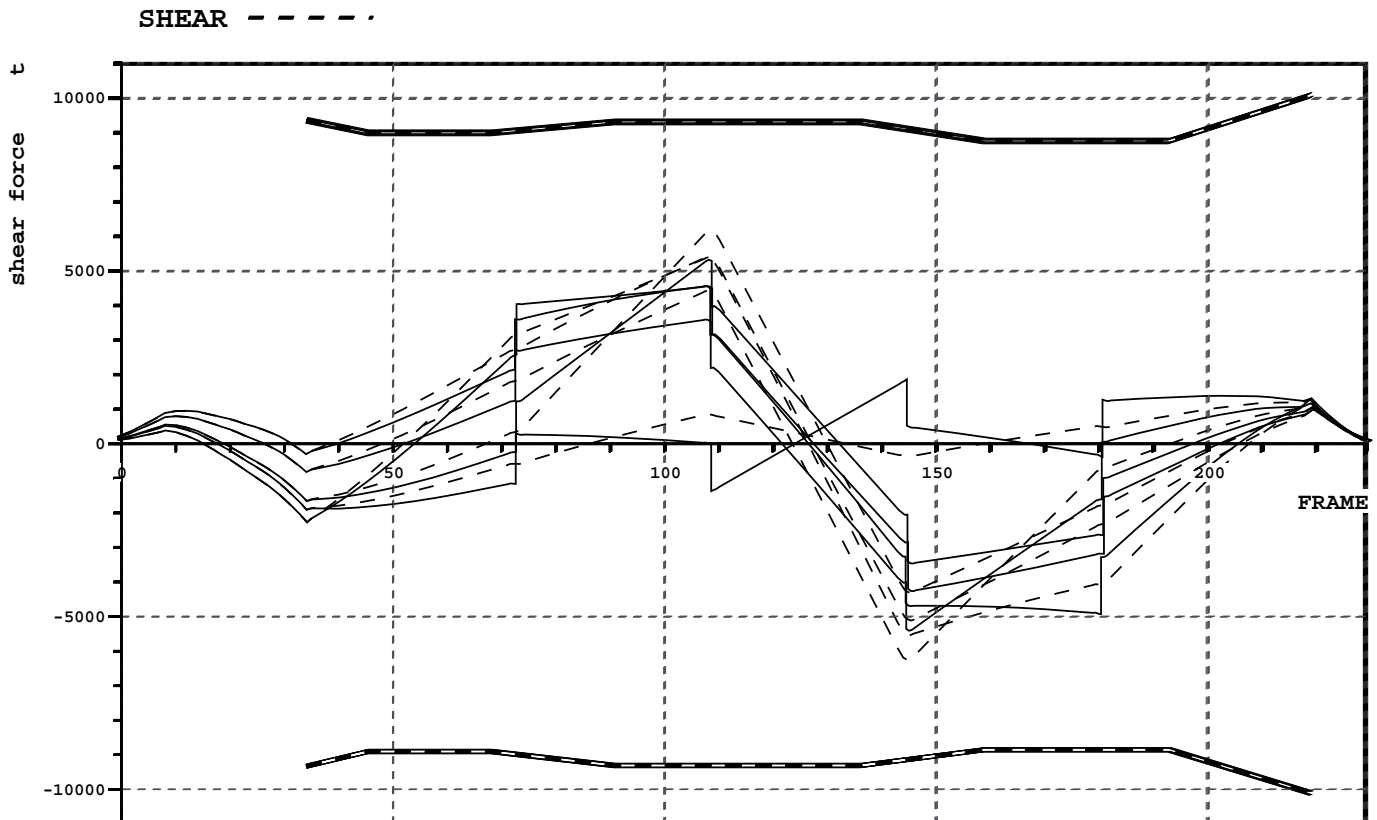
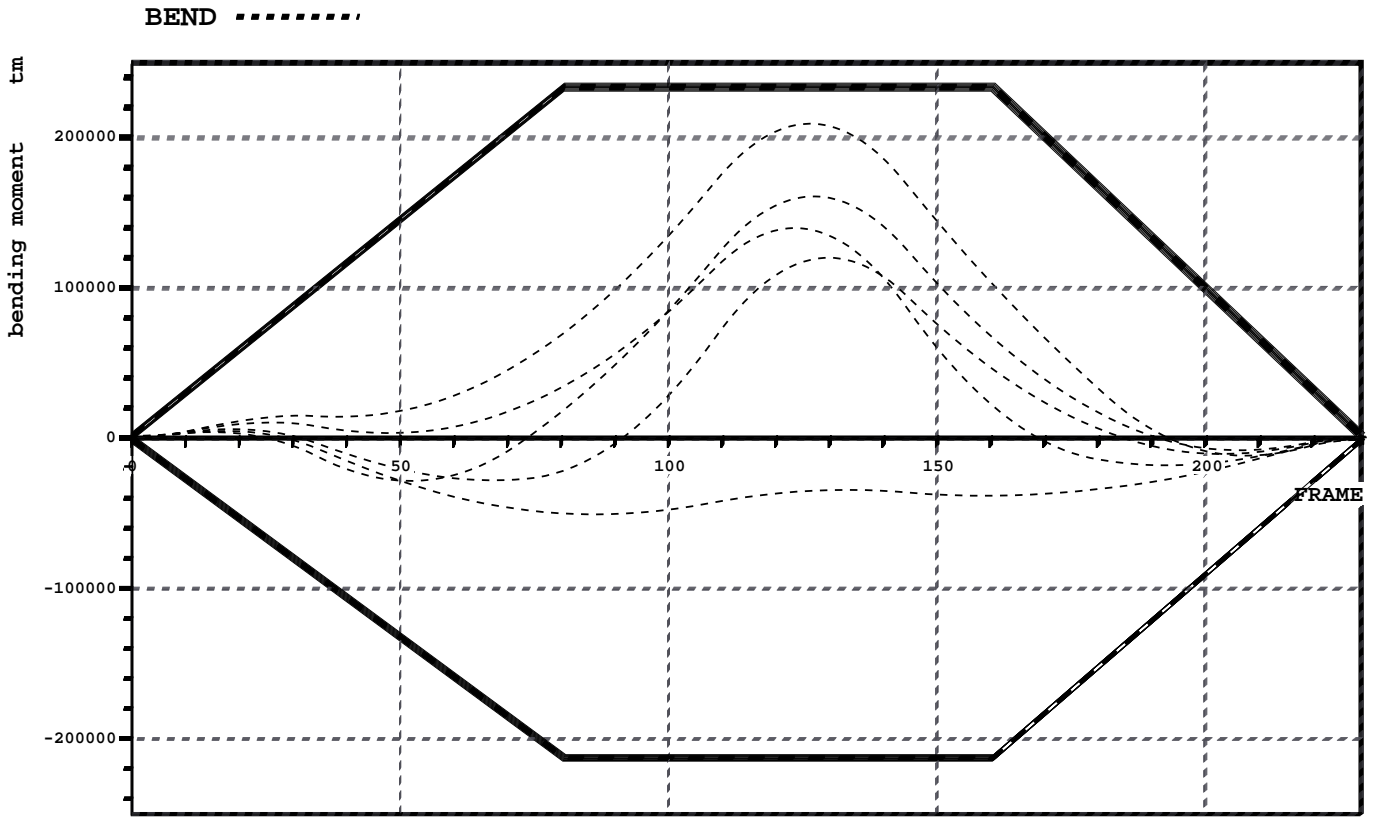
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4227.6 t	(49.8%)	POSITION: 116.2 m	145
SHEAR FORCE (MAX,CORR)	4059.3 t	(46.3%)	86.2 m	108
SAGGING MOMENT	-10120.5 tm	(18.2%)	163.5 m	204
HOGGING MOMENT	151724.0 tm	(87.6%)	100.8 m	126

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	6781	73770	-8786	-928	-928	8830
72.50	-137807	17848	156169	-8294	1867	1283	8395
72.50	-137811	17851	156173	-8294	1868	2744	8395
108.50	-152905	116032	173293	-8758	4888	4012	8758
108.50	-152905	116035	173293	-8758	4888	2669	8758
144.50	-152905	113948	173293	-8517	-5042	-2823	8468
144.50	-152905	113940	173293	-8517	-5042	-4165	8467
180.50	-108361	10106	122770	-8106	-2116	-2993	7971
180.50	-108357	10102	122765	-8106	-2116	-1339	7971
219.00	-23246	-4171	26231	-9904	1018	1018	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



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LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4921.4 t	(55.6%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	4580.7 t	(49.2%)		86.0 m 108
SAGGING MOMENT	-10597.0 tm	(15.8%)		166.1 m 208
HOGGING MOMENT	210509.6 tm	(90.3%)		101.2 m 126

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5410.8 t	(59.3%)	POSITION:	116.0 m 145
SHEAR FORCE (MAX,CORR)	3597.9 t	(38.6%)		86.0 m 108
SAGGING MOMENT	-17610.3 tm	(15.8%)		154.6 m 193
HOGGING MOMENT	140372.1 tm	(60.2%)		99.0 m 124

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1910.2 t	(20.5%)	POSITION:	27.2 m 34
SHEAR FORCE (MAX,CORR)	1858.1 t	(20.4%)		115.6 m 145
SAGGING MOMENT	-50756.5 tm	(23.8%)		68.8 m 86
HOGGING MOMENT	4734.8 tm	(9.2%)		14.0 m 17

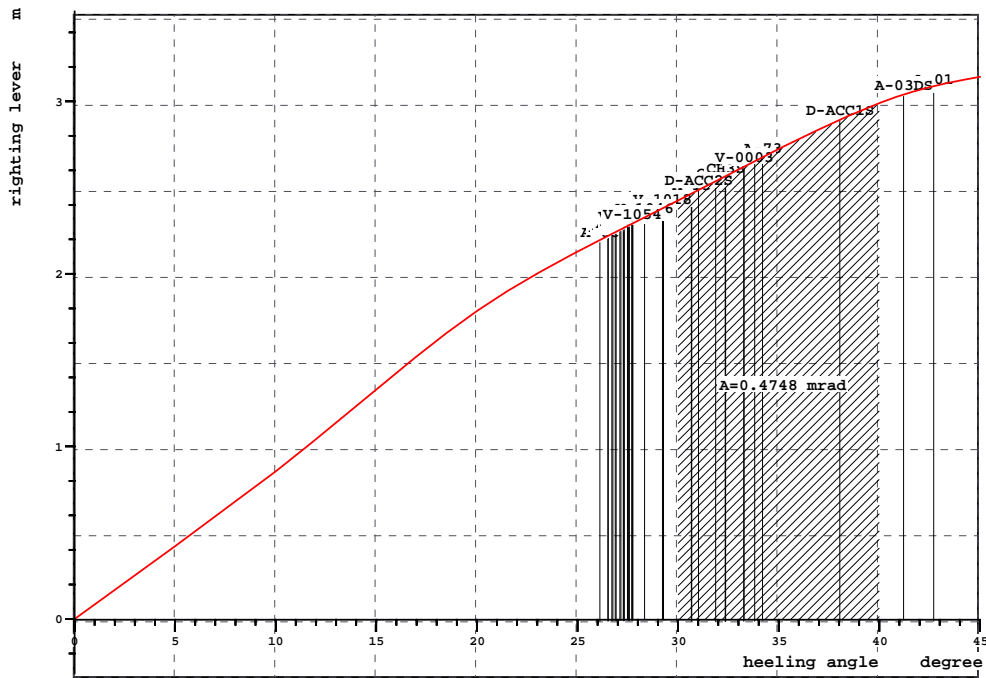
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3477.3 t	(38.1%)	POSITION:	116.2 m 145
SHEAR FORCE (MAX,CORR)	5301.4 t	(56.9%)		86.4 m 108
SAGGING MOMENT	-28668.0 tm	(16.1%)		53.7 m 67
HOGGING MOMENT	119353.4 tm	(51.2%)		103.8 m 130

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4281.4 t	(46.9%)	POSITION:	116.2 m 145
SHEAR FORCE (MAX,CORR)	4528.6 t	(48.6%)		86.0 m 108
SAGGING MOMENT	-29592.9 tm	(21.6%)		41.4 m 52
HOGGING MOMENT	159498.8 tm	(68.4%)		101.6 m 127

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.677	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.152	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.475	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	3.143	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	4.827	m	OK
IMOWEATHER	IMO weather criterion	1.000	3.941		OK
GMD	GM > 1.20 m ref. damage stability	1.200	4.827	m	OK

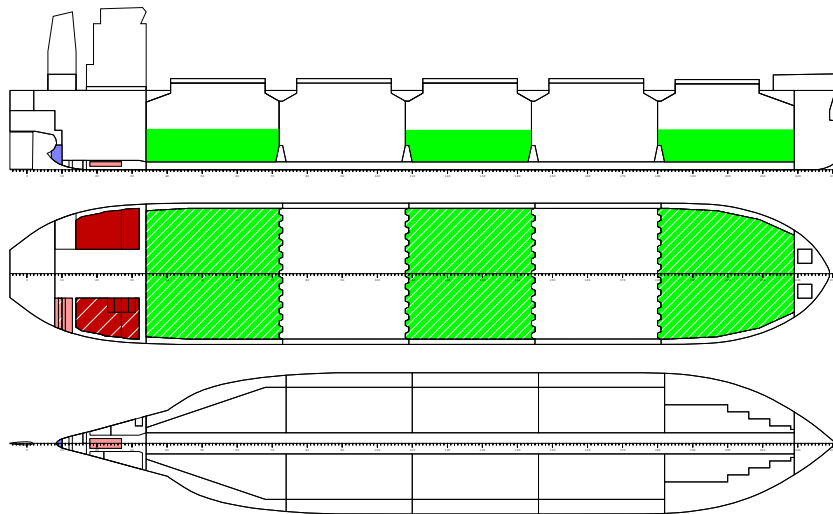
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-15, C3.00 CH 135 - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	64682 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	11.98 m		
Draught aft (below keel)	13.13 m		
Mean draught (below keel)	12.56 m	Trim	1.15 m
KM above the moulded base	13.74 m		
KG0 (solid)	7.06 m	GM0 (solid)	6.67 m
Free surface correction	0.17 m		-0.17 m
KG (fluid)	7.23 m	GM (fluid)	6.51 m
Actual heel	-0.38 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Heavy Cargo (RHO=3)							
CH1	NO.1 CARGO HOLD	16800.0	45	158.69	0.00	5.71	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	17590.0	44	101.22	0.00	5.62	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	16806.4	42	43.79	0.00	5.93	0

TOTAL		51196.4		101.23	0.00	5.75	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		0.0		0.00	0.00	0.00	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53637.8	97.41	-0.06	6.08
Total weight	64681.9	95.13	-0.05	7.06

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.80

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.48 M

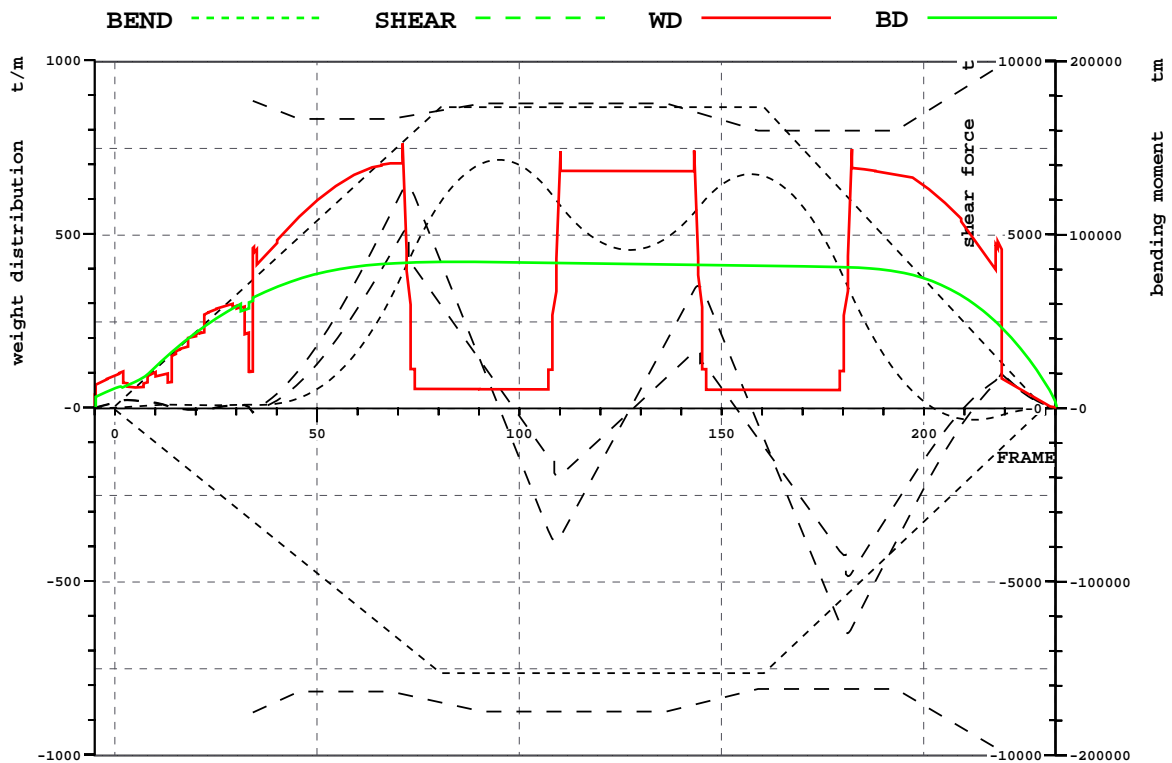
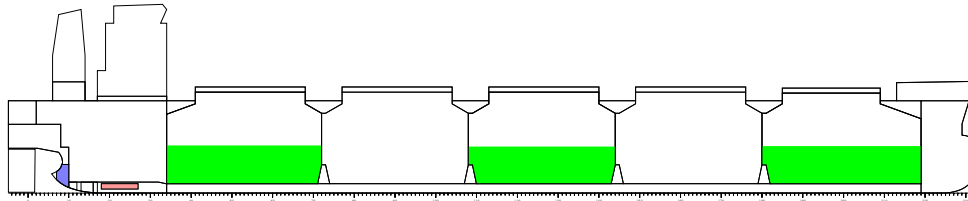
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.51 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.33 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.14 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 6.96 M

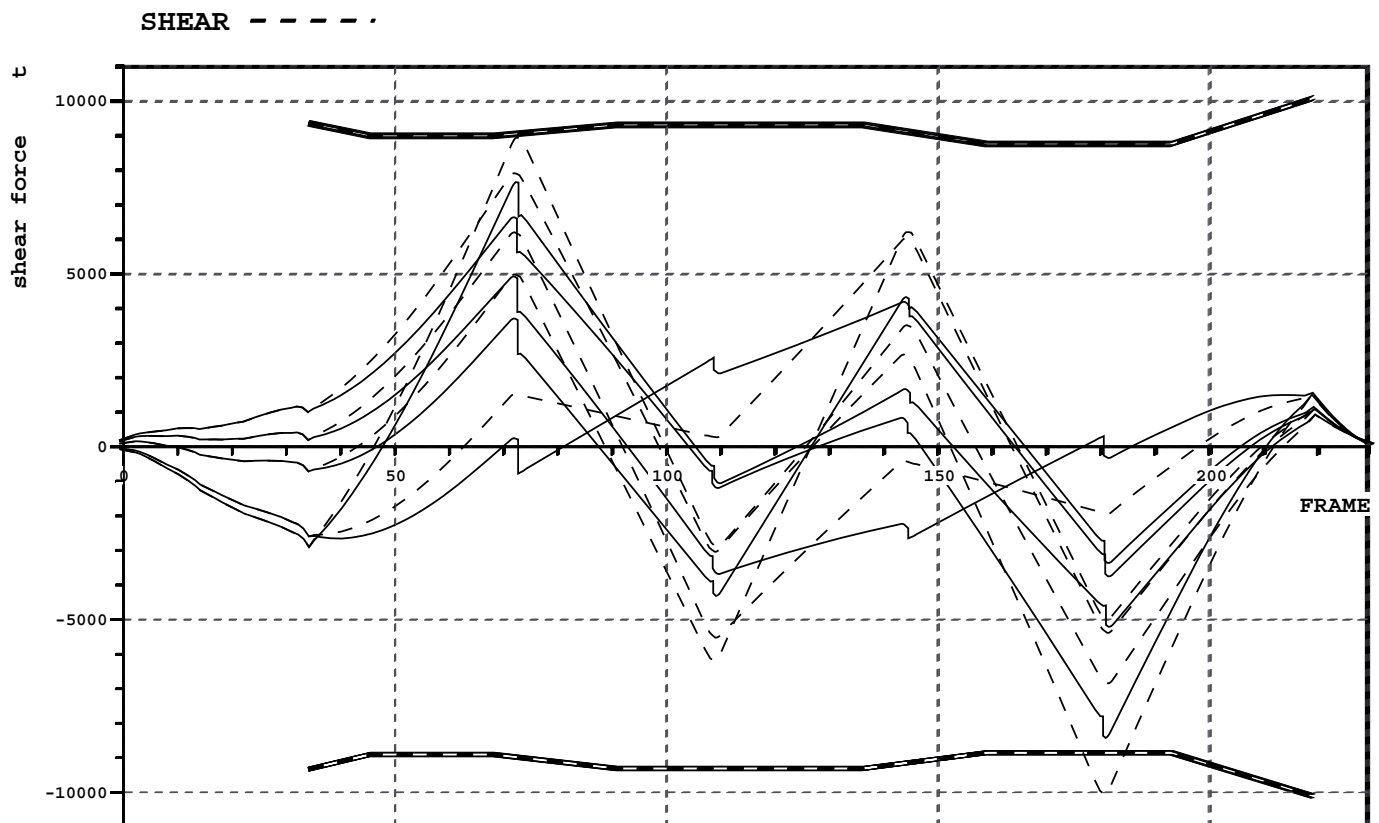
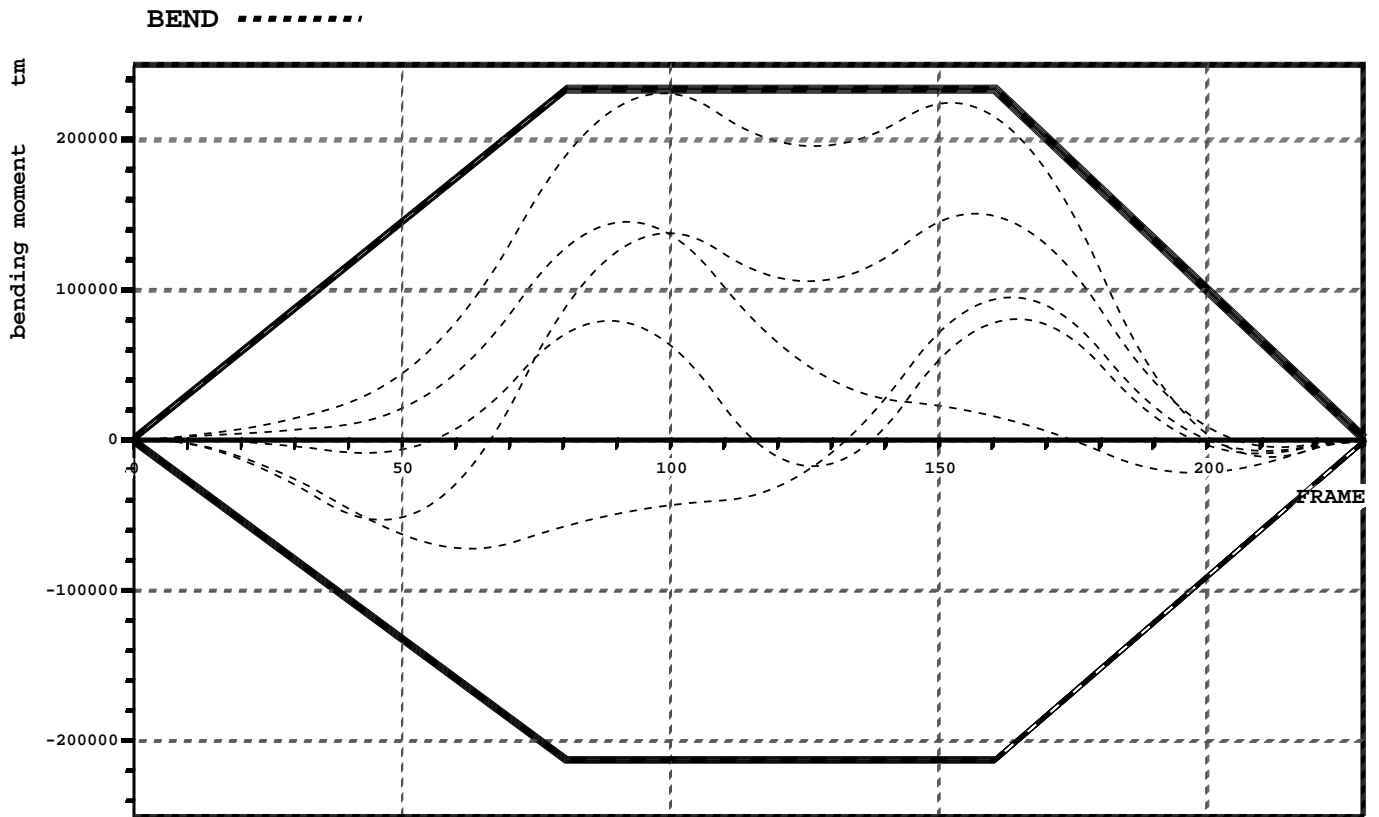
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4859.6 t	(60.0%)	144.8 m	181
SHEAR FORCE (MAX,CORR)	5118.8 t	(61.0%)	57.6 m	72
SAGGING MOMENT	-6670.0 tm	(17.6%)	169.9 m	212
HOGGING MOMENT	143209.2 tm	(82.6%)	76.1 m	95

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	1970	73770	-8786	-139	-139	8830
72.50	-137807	84536	156169	-8294	6386	5084	8395
72.50	-137811	84546	156173	-8294	6386	4101	8395
108.50	-152905	121762	173293	-8758	-3820	-1536	8758
108.50	-152905	121759	173293	-8758	-3820	-1889	8758
144.50	-152905	116450	173293	-8517	3492	1561	8468
144.50	-152905	116455	173293	-8517	3492	1273	8467
180.50	-108361	73591	122770	-8106	-6461	-4242	7971
180.50	-108357	73580	122765	-8106	-6461	-4804	7971
219.00	-23246	-4103	26231	-9904	986	986	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-8418.1 t (95.1%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	6659.3 t (73.6%)		57.6 m	72
SAGGING MOMENT	-10191.4 tm (18.9%)		169.5 m	212
HOGGING MOMENT	232099.7 tm (99.5%)		79.1 m	99

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3678.6 t (39.5%)	POSITION:	87.6 m	109
SHEAR FORCE (MAX,CORR)	4932.4 t (54.5%)		57.4 m	72
SAGGING MOMENT	-21248.3 tm (21.9%)		158.3 m	198
HOGGING MOMENT	145874.0 tm (62.6%)		73.5 m	92

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4319.6 t (46.4%)	POSITION:	87.2 m	109
SHEAR FORCE (MAX,CORR)	4324.9 t (47.4%)		115.2 m	144
SAGGING MOMENT	-17358.0 tm (8.1%)		101.2 m	126
HOGGING MOMENT	80528.7 tm (36.7%)		131.5 m	164

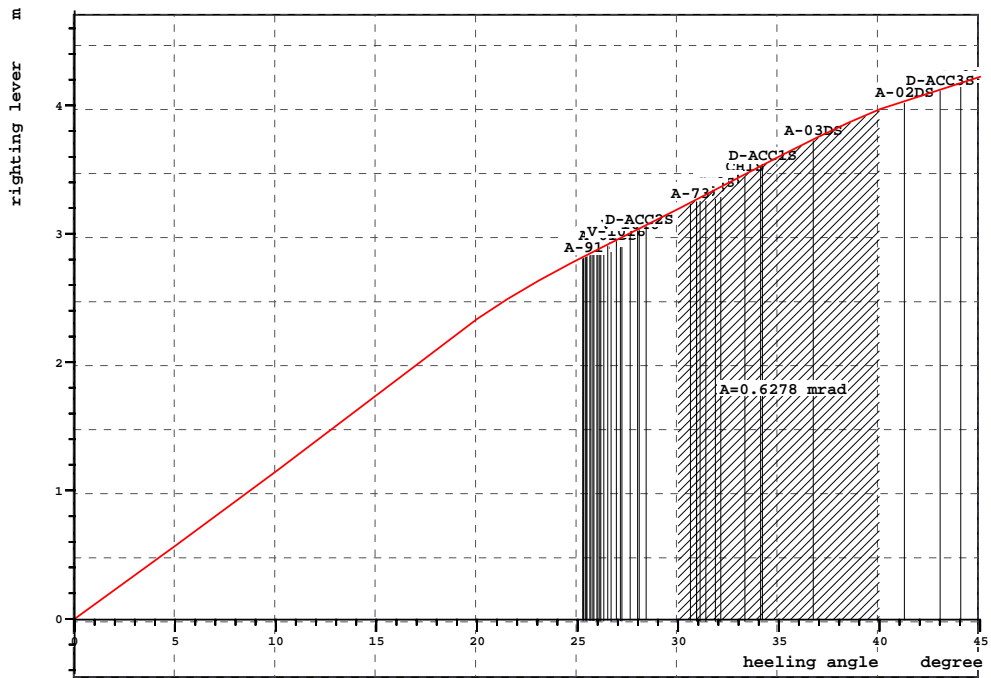
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3762.7 t (42.5%)	POSITION:	145.0 m	181
SHEAR FORCE (MAX,CORR)	4174.1 t (45.7%)		114.8 m	144
SAGGING MOMENT	-72756.5 tm (44.0%)		49.9 m	62
HOGGING MOMENT	94355.1 tm (42.4%)		130.7 m	163

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5225.6 t (59.0%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	7621.3 t (84.2%)		57.6 m	72
SAGGING MOMENT	-54138.8 tm (44.3%)		36.8 m	46
HOGGING MOMENT	149339.9 tm (64.0%)		125.2 m	156

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.891	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.519	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.628	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.225	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	6.508	m	OK
IMOWEATHER	IMO weather criterion	1.000	3.759		OK
GMD	GM > 1.20 m ref. damage stability	1.200	6.508	m	OK

		FUEL TANK OPERATIONS										BALLAST OPERATIONS								
		DO deep tank S	DO serv and sett	FW tanks	HFO 1 P & S	HFO 2 P & S	HFO serv & sett	LO tanks	Misc oil	Misc water	Total tanks		APT	BW No. 5/TECH	BW No. 4	BW No. 3	BW No. 2	BW No. 1	FPT	Total BW tanks
		ton	ton	ton	ton	ton	ton	ton	ton	ton	ton		ton	ton	ton	ton	ton	ton	ton	ton
Dep. condition		138,7	56,4	239,1	723,7	937,9	168,4	113,5	0,0	8,8	2.386,5	WT	0	0	0	0	0	0	0	0
												DB		0	0	0	0	0	0	0
STEP 1	Change	-116,7	-8,4	-139,1	-723,7	-341,5	0,0	-62,4	4,1	45,0	-1.343	WT								
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8		DB								
STEP 2	Change										0	WT	658	0						658
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8	1.043,8	DB								
STEP 3	Change											WT								
	Total											DB								
STEP 4	Change											WT								
	Total											DB								
STEP 5	Change											WT								
	Total											DB								
STEP 6	Change											WT								
	Total											DB								
Arr. condition		0,0	25,0	15,0	0,0	20,0	168,4	11,3	8,1	98,9	346,7	WT	0	0	0	0	0	0	0	658
												DB		0	0	0	0	0	0	

SUMMARY OF BALLASTING OPERATIONS DURING VOYAGE					CONDITION DRAUGHTS AND LONG. STRENGTH								
Name	Class ID		Initial condition:		L*15		d aft (m)	Trim (m)	d fwd (m)	Intact		Flooding	
			Final condition:		L*16	Dep. condition	13,13	1,15	11,98	S.F. (%)	B.M. (%)	S.F. (%)	B.M. (%)
	Cond. no. L*15		Cond. no. L*16		NOTES: At each step in the ballasting operation the allowable hull girder shear force and bending moment must not be exceeded. For other initial conditions or if another ballasting sequence is chosen, the vessels loadcomputer can be used to simulate the proces to make sure that strength is not exceeded during the operation. Reference: CB40.3580.11/055-01: Preliminary Stability Manual - M/S Bulkcarrier	Step 1	12,32	-0,03	12,36	57,70	72,50	93,30	92,50
Lightweight	11.044,1	ton	11.044,1	ton		Step 2	12,79	0,68	12,10	59,20	80,90	94,60	98,00
Cargo	51.196,4	ton	51.196,4	ton		Step 3							
Crew, stores	55	ton	45	ton		Step 4							
Fuel etc	2.387	ton	347	ton		Step 5							
Ballast	0	ton	658	ton		Step 6							
Displacement	64.682	ton	63.290	ton		Arr. condition	12,35	0,03	12,32	57,80	74,30	93,50	93,10

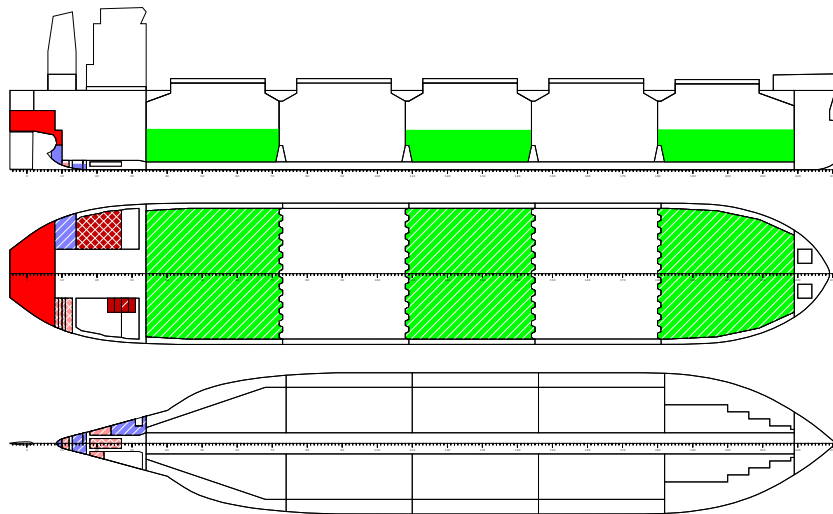
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-16, C3.00 CH 135 - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	63290 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.32 m		
Draught aft (below keel)	12.35 m		
Mean draught (below keel)	12.33 m	Trim	0.03 m
KM above the moulded base	13.69 m		
KG0 (solid)	6.91 m	GM0 (solid)	6.78 m
Free surface correction	0.16 m		-0.16 m
KG (fluid)	7.07 m	GM (fluid)	6.61 m
Actual heel	-0.04 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Heavy Cargo (RHO=3)							
CH1	NO.1 CARGO HOLD	16800.0	45	158.69	0.00	5.71	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	17590.0	44	101.22	0.00	5.62	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	16806.4	42	43.79	0.00	5.93	0

TOTAL		51196.4		101.23	0.00	5.75	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	8540

SUBTOTAL		658.2		2.33	0.00	11.53	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	52246.3	99.35	-0.01	5.87
Total weight	63290.4	96.68	-0.01	6.91

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.72

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.30 M

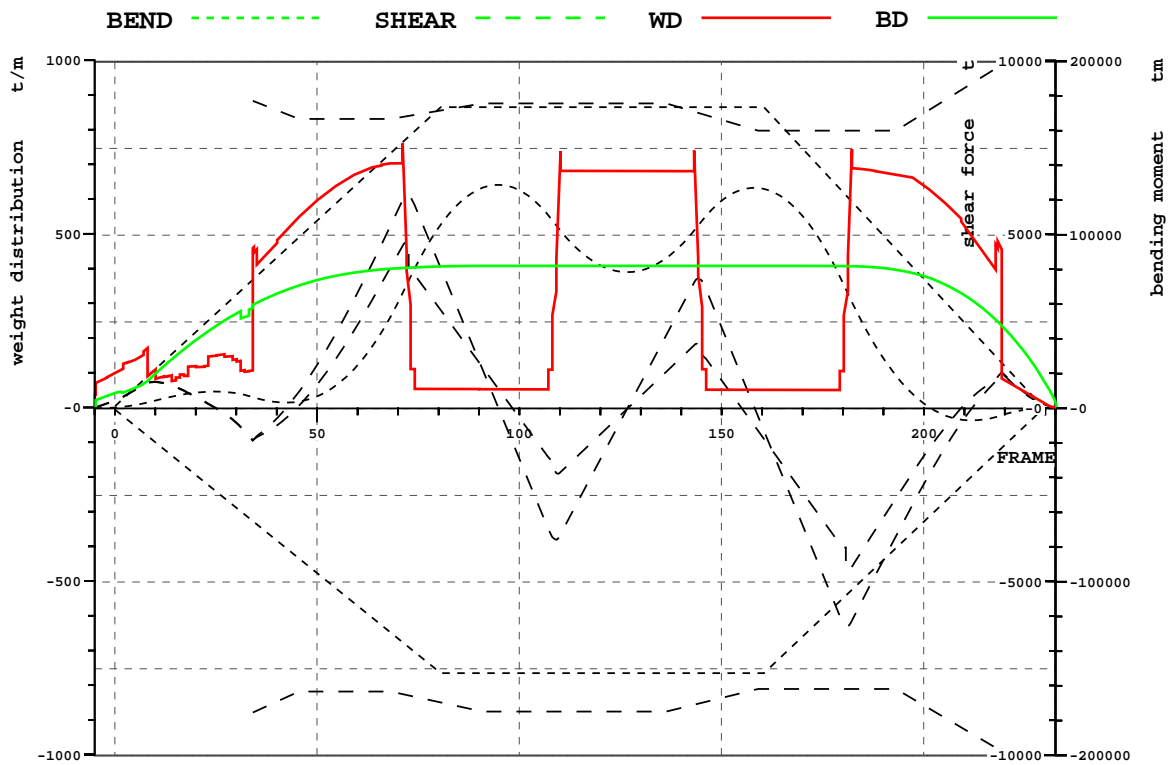
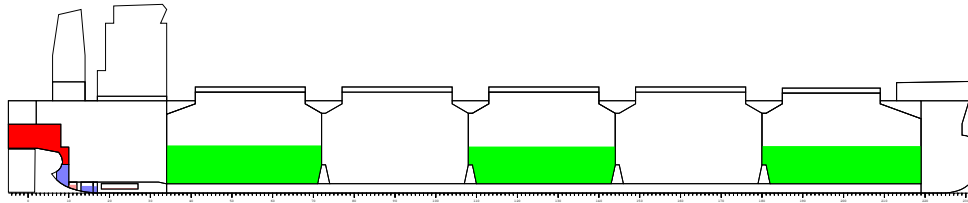
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.50 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.49 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.49 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.48 M

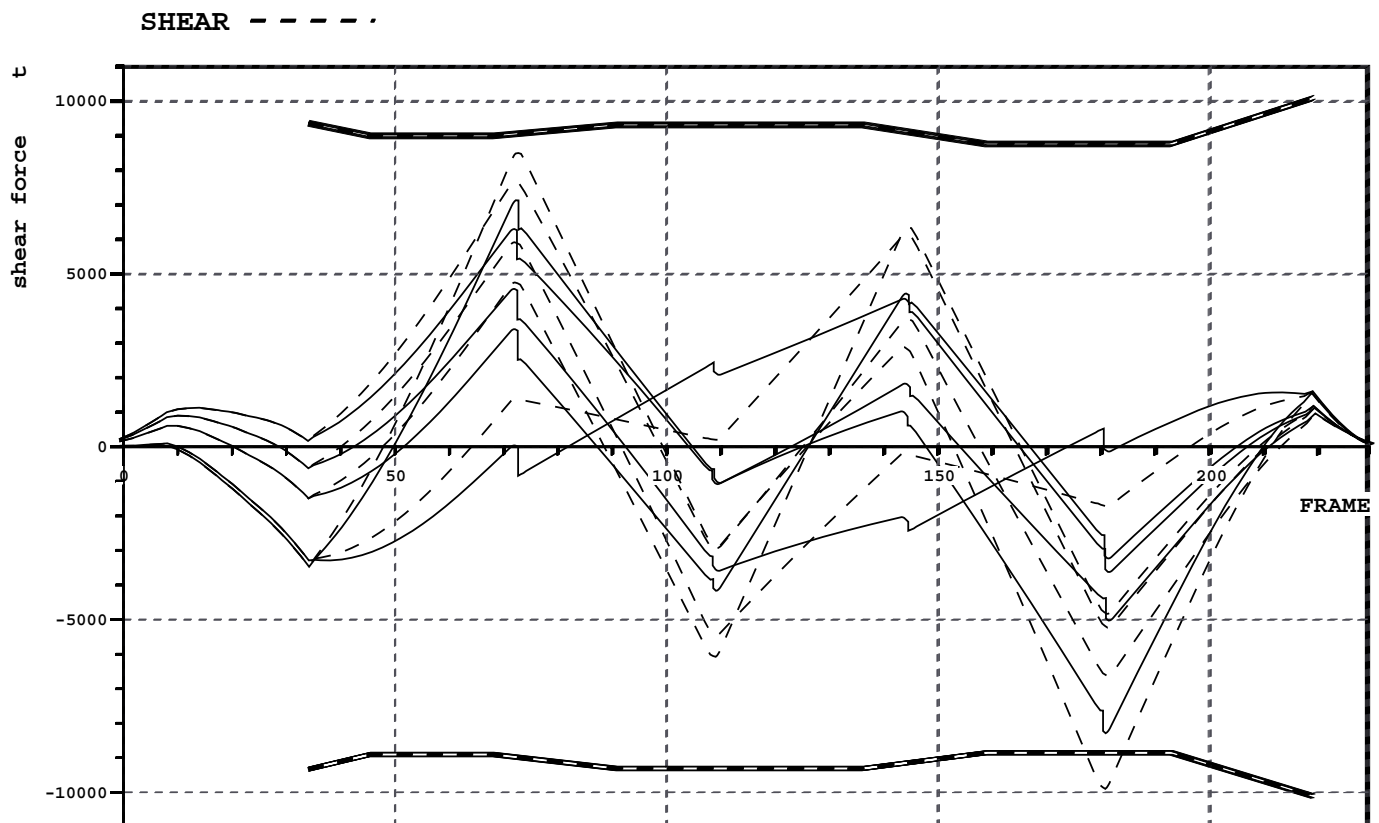
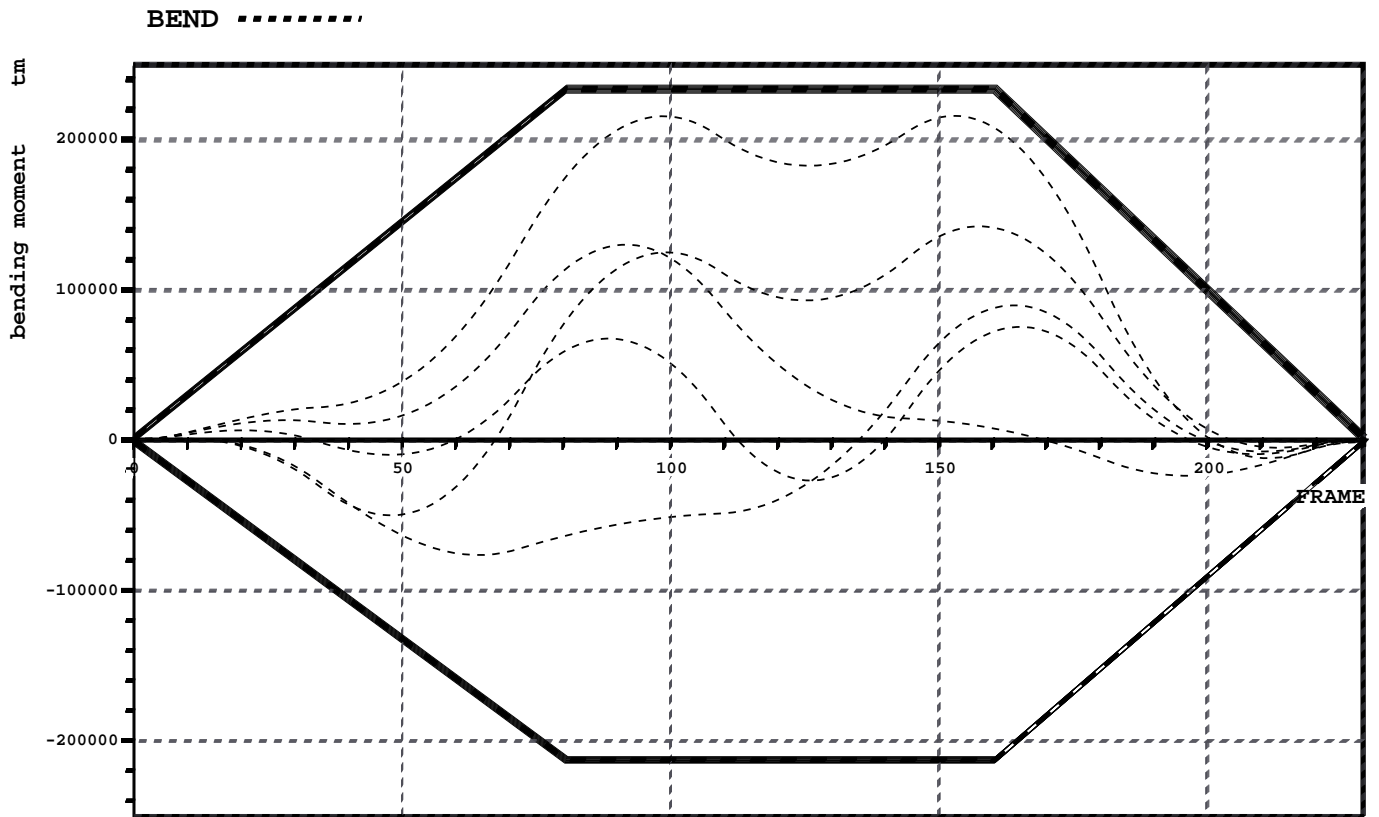
CHECK OF LONGITUDINAL STRENGTH



				X	FRAME
SHEAR FORCE (MIN,CORR)	-4683.7 t	(57.8%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	4770.5 t	(56.9%)		57.6 m	72
SAGGING MOMENT	-6989.5 tm	(18.0%)		169.5 m	212
HOGGING MOMENT	128795.7 tm	(74.3%)		75.7 m	95

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	6548	73770	-8786	-944	-944	8830
72.50	-137807	72930	156169	-8294	6115	4740	8395
72.50	-137811	72940	156173	-8294	6115	3892	8395
108.50	-152905	107371	173293	-8758	-3764	-1542	8758
108.50	-152905	107368	173293	-8758	-3764	-1803	8758
144.50	-152905	106255	173293	-8517	3706	1745	8468
144.50	-152905	106261	173293	-8517	3706	1485	8467
180.50	-108361	69733	122770	-8106	-6256	-4035	7971
180.50	-108357	69723	122765	-8106	-6256	-4627	7971
219.00	-23246	-4168	26231	-9904	1018	1018	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



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LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-8281.6 t	(93.5%)	POSITION:	144.8 m 181
SHEAR FORCE (MAX,CORR)	6320.1 t	(69.8%)		57.6 m 72
SAGGING MOMENT	-10910.9 tm	(19.8%)		169.2 m 212
HOGGING MOMENT	217074.4 tm	(93.1%)		122.6 m 153

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3587.0 t	(38.5%)	POSITION:	87.6 m 110
SHEAR FORCE (MAX,CORR)	4573.3 t	(50.5%)		57.6 m 72
SAGGING MOMENT	-23221.7 tm	(22.9%)		157.2 m 197
HOGGING MOMENT	130655.7 tm	(56.0%)		73.5 m 92

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4171.1 t	(44.8%)	POSITION:	87.2 m 109
SHEAR FORCE (MAX,CORR)	4429.2 t	(48.6%)		115.2 m 144
SAGGING MOMENT	-26936.7 tm	(12.6%)		100.8 m 126
HOGGING MOMENT	75317.7 tm	(34.8%)		132.2 m 165

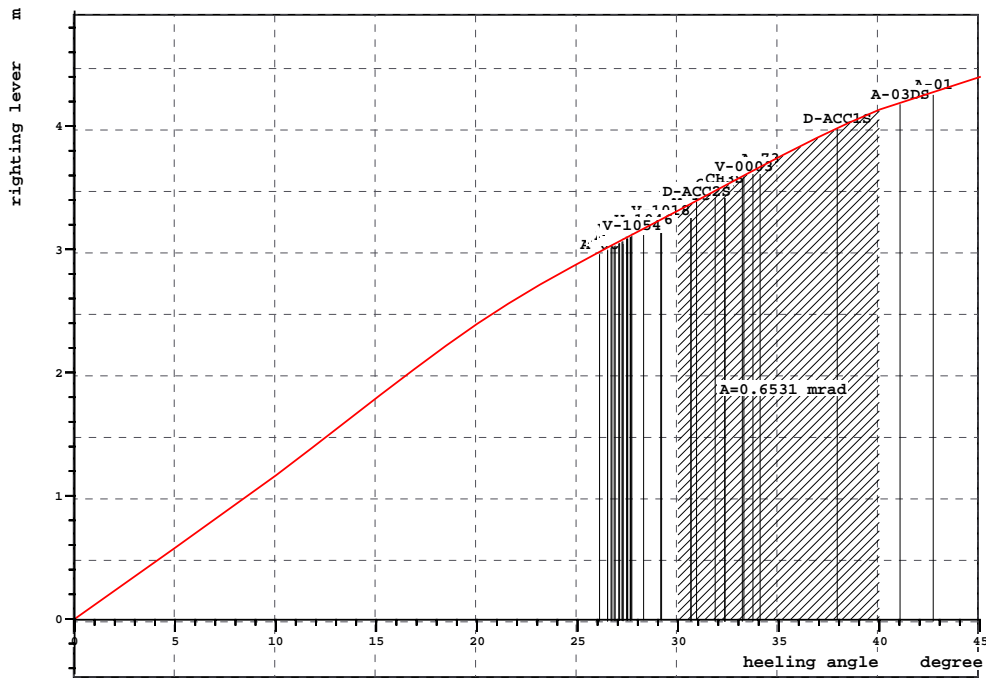
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3636.2 t	(41.1%)	POSITION:	145.0 m 181
SHEAR FORCE (MAX,CORR)	4263.7 t	(46.7%)		114.8 m 144
SAGGING MOMENT	-77003.3 tm	(45.2%)		51.4 m 64
HOGGING MOMENT	89067.3 tm	(40.3%)		131.1 m 164

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5042.8 t	(57.0%)	POSITION:	144.8 m 181
SHEAR FORCE (MAX,CORR)	7099.4 t	(78.5%)		57.6 m 72
SAGGING MOMENT	-51108.9 tm	(40.1%)		38.4 m 48
HOGGING MOMENT	140927.5 tm	(60.4%)		125.9 m 157

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.916	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.569	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.653	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.401	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	6.613	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.185		OK
GMD	GM > 1.20 m ref. damage stability	1.200	6.613	m	OK

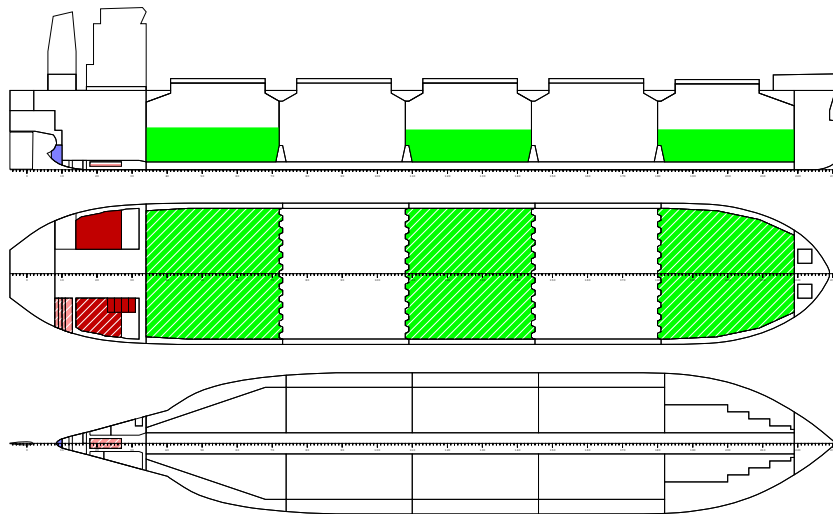
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-17, C3.00 CH 135 - DEP 50 %

FLOATING POSITION / calculation method: free trim

Displacement	64539 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.24 m		
Draught aft (below keel)	12.85 m		
Mean draught (below keel)	12.54 m	Trim	0.61 m
KM above the moulded base	13.71 m		
KG0 (solid)	6.99 m	GM0 (solid)	6.72 m
Free surface correction	0.16 m		-0.16 m
KG (fluid)	7.15 m	GM (fluid)	6.56 m
Actual heel	0.05 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Heavy Cargo (RHO=3)							
CH1	NO.1 CARGO HOLD	16800.0	45	158.69	0.00	5.71	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	17750.0	44	101.22	0.00	5.65	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	17650.0	44	43.74	0.00	6.10	0

TOTAL		52200.0		100.28	0.00	5.82	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	50.0	35	14.21	-11.73	14.28	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		106.5		13.89	-9.33	15.04	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	95.0	79	-0.80	8.23	15.42	87
FWS	FW TANK S	5.0	4	-0.64	-7.53	13.63	87

SUBTOTAL		100.0		-0.79	7.44	15.33	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	303.6	67	16.83	-9.39	10.87	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		968.3		18.20	0.66	12.03	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	7.6	49	6.81	-7.80	10.78	13
LOST2	NO.2 LO STORE TK	8.3	49	7.61	-7.95	10.67	15
CYL1	NO.1 CYL OIL TK	8.9	49	8.41	-8.11	10.58	17
CYL2	NO.2 CYL OIL TK	19.6	49	9.62	-8.36	10.48	73
SUMP	LO SUMP TANK	7.1	49	18.00	0.00	1.05	6
LOAUX1	NO.1 LO A/E TANK	1.9	49	2.00	-3.20	14.78	0
LOAUX2	NO.2 LO A/E TANK	1.9	49	2.00	-4.80	14.78	0
LOS	LO STERN TUBE TK	0.9	49	1.20	2.90	14.14	0
CYLS1	NO.1 CYL OIL SERV. TK	0.3	49	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.3	49	26.20	3.60	14.50	0

SUBTOTAL		56.7		9.37	-6.54	9.78	124
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		0.0		0.00	0.00	0.00	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53495.4	98.24	0.00	5.99
Total weight	64539.5	95.82	0.00	6.99

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.75

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.30 M

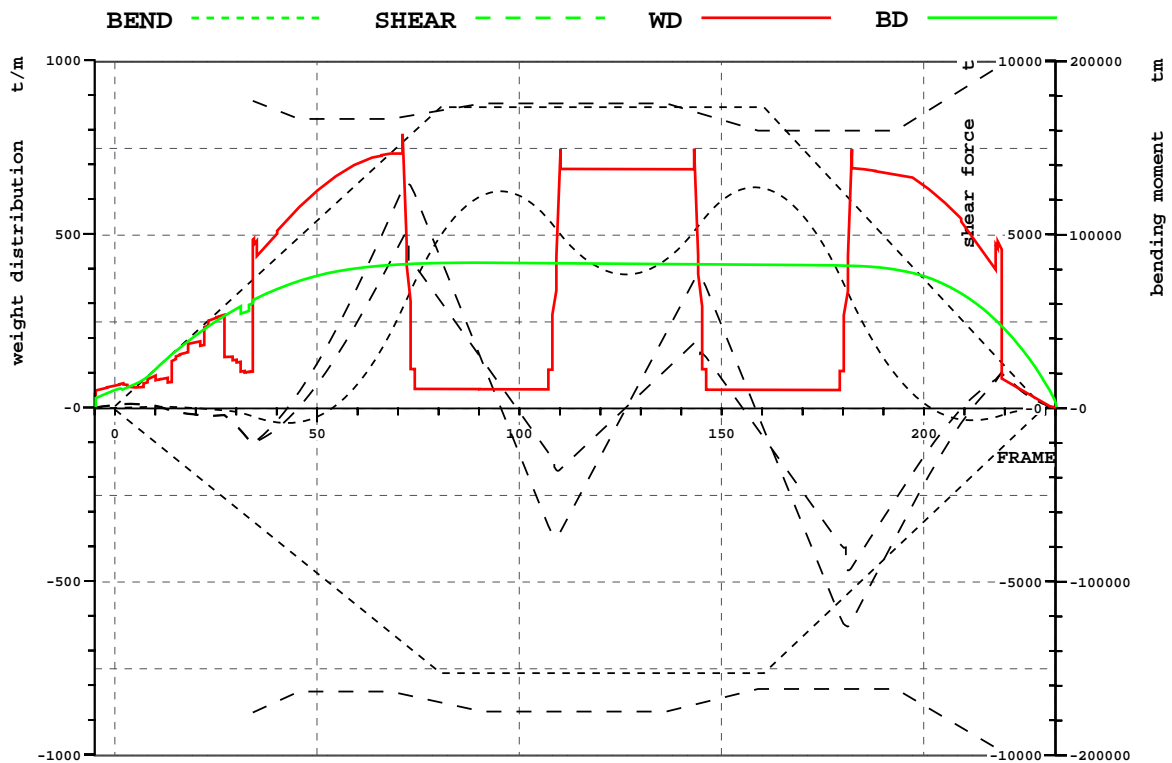
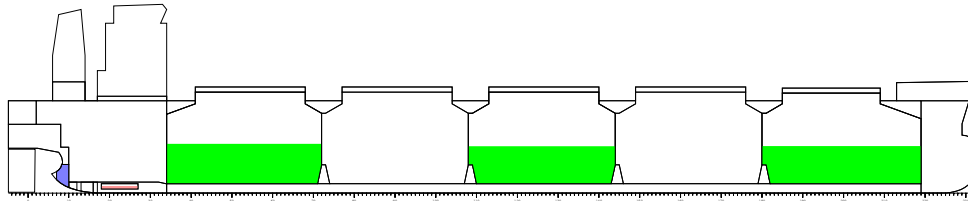
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.41 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.31 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.22 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.12 M

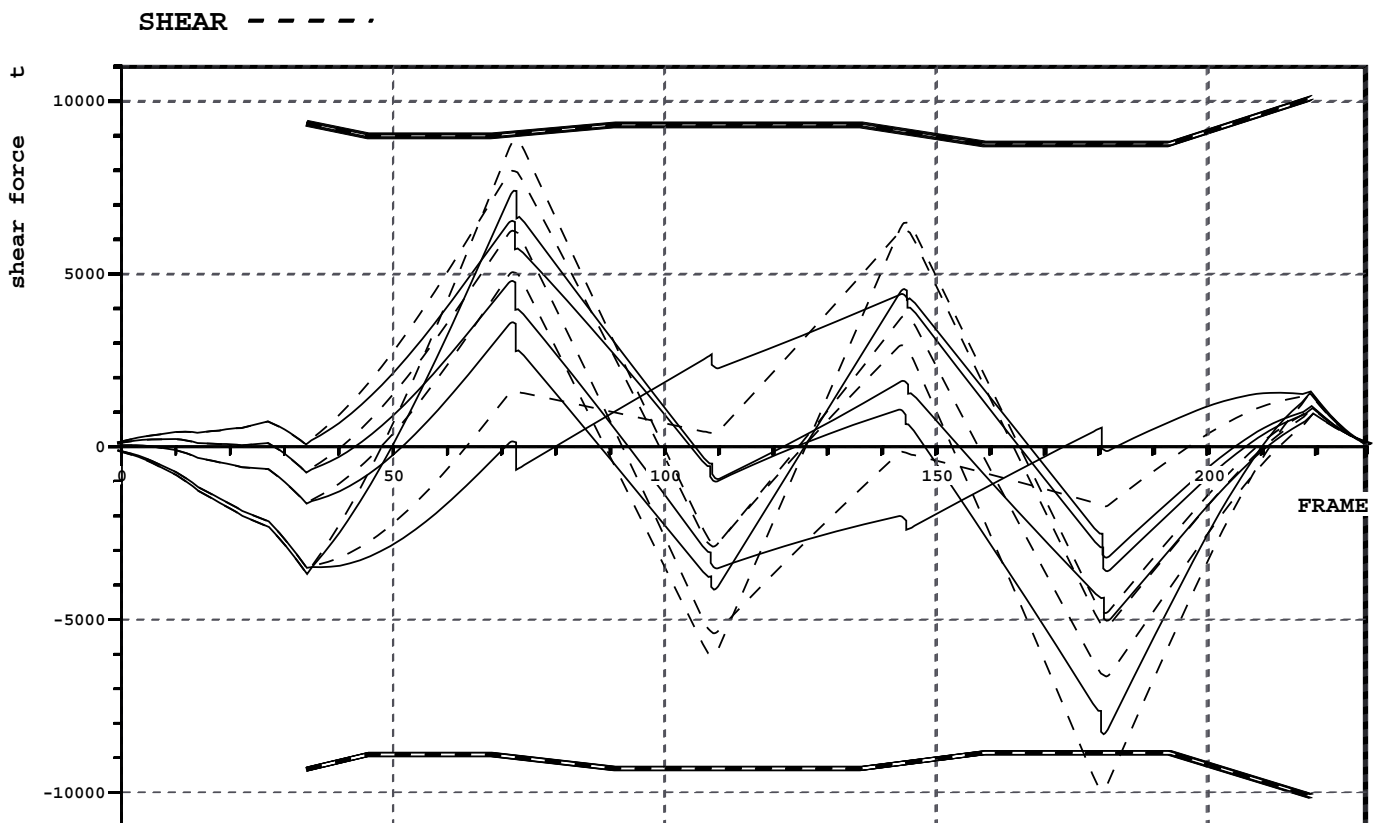
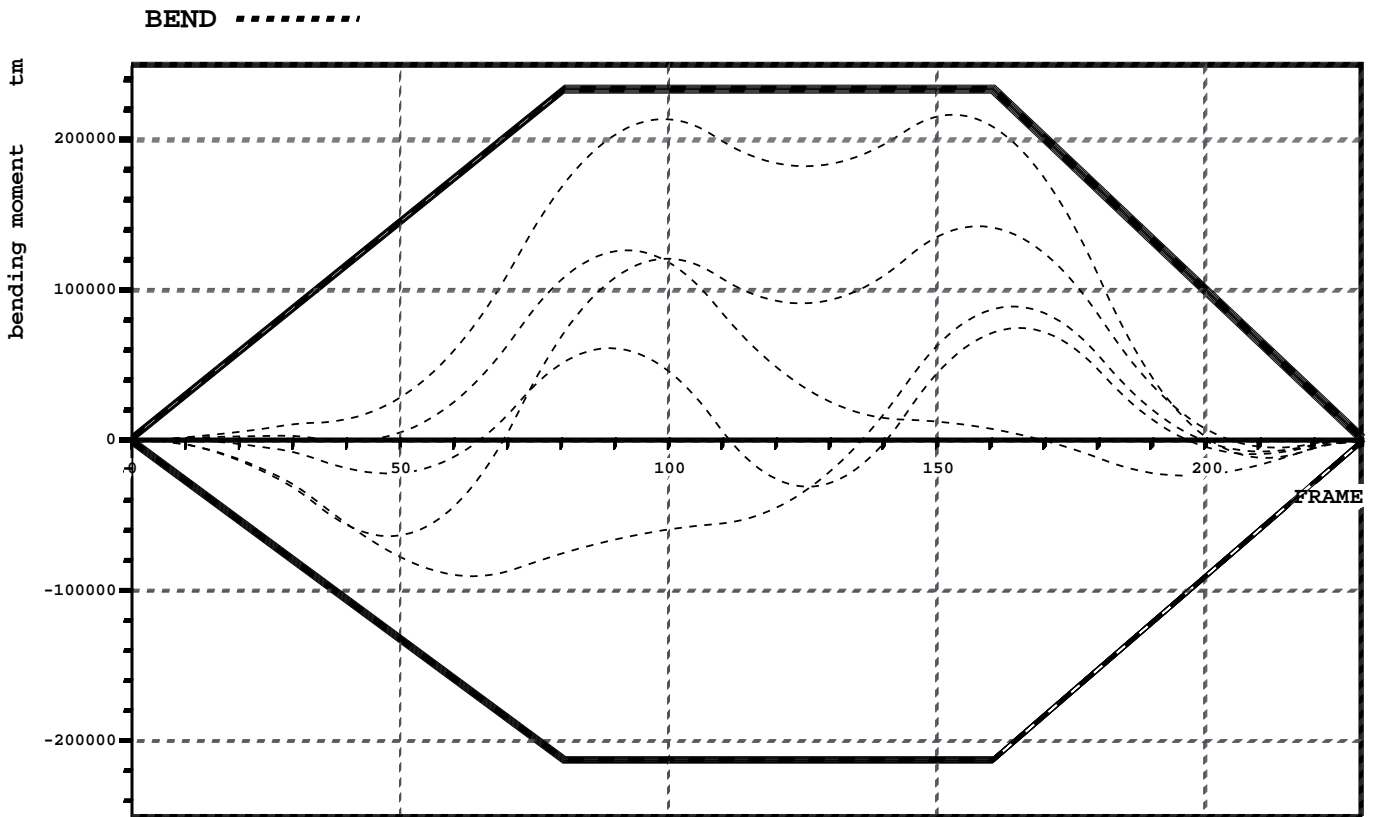
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4694.3 t	(57.9%)	144.8 m	181
SHEAR FORCE (MAX,CORR)	5001.1 t	(59.6%)	57.6 m	72
SAGGING MOMENT	-8490.2 tm	(10.4%)	34.3 m	43
HOGGING MOMENT	127360.6 tm	(73.5%)	126.7 m	158

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-4577	73770	-8786	-1077	-1077	8830
72.50	-137807	64625	156169	-8294	6450	4971	8395
72.50	-137811	64636	156173	-8294	6450	4179	8395
108.50	-152905	104992	173293	-8758	-3681	-1410	8758
108.50	-152905	104990	173293	-8758	-3682	-1715	8758
144.50	-152905	105946	173293	-8517	3778	1811	8468
144.50	-152905	105952	173293	-8517	3777	1541	8467
180.50	-108361	70158	122770	-8106	-6267	-4030	7971
180.50	-108357	70148	122765	-8106	-6267	-4637	7971
219.00	-23246	-4168	26231	-9904	1011	1011	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-8307.0 t (93.8%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	6555.4 t (72.4%)		57.6 m	72
SAGGING MOMENT	-10782.7 tm (19.6%)		169.2 m	212
HOGGING MOMENT	217860.8 tm (93.4%)		122.6 m	153

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3517.4 t (37.8%)	POSITION:	87.6 m	109
SHEAR FORCE (MAX,CORR)	4803.9 t (53.1%)		57.6 m	72
SAGGING MOMENT	-23090.9 tm (22.8%)		157.2 m	197
HOGGING MOMENT	126946.6 tm (54.4%)		73.9 m	92

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4135.5 t (44.4%)	POSITION:	87.2 m	109
SHEAR FORCE (MAX,CORR)	4559.9 t (50.0%)		115.2 m	144
SAGGING MOMENT	-30965.2 tm (14.5%)		100.8 m	126
HOGGING MOMENT	74590.6 tm (34.5%)		132.2 m	165

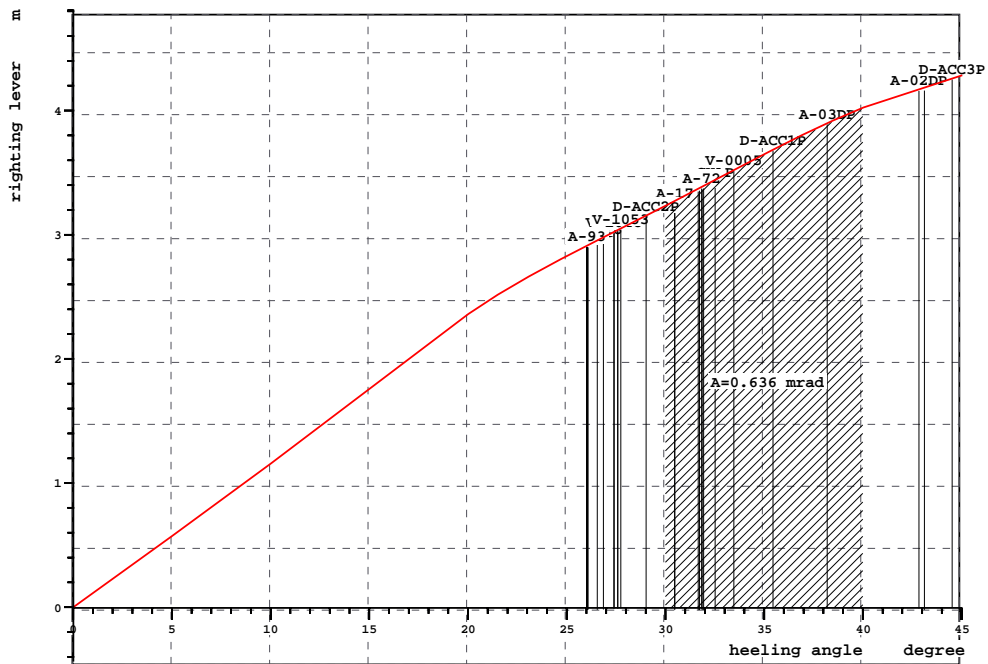
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3610.2 t (40.8%)	POSITION:	145.0 m	181
SHEAR FORCE (MAX,CORR)	4402.3 t (48.2%)		114.8 m	144
SAGGING MOMENT	-91076.7 tm (54.1%)		50.8 m	64
HOGGING MOMENT	88295.9 tm (39.9%)		131.1 m	164

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5048.6 t (57.0%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	7373.1 t (81.4%)		57.8 m	72
SAGGING MOMENT	-64951.9 tm (51.0%)		38.4 m	48
HOGGING MOMENT	141009.6 tm (60.5%)		125.9 m	157

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.900	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.536	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.636	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.285	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	6.564	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.034		OK
GMD	GM > 1.20 m ref. damage stability	1.200	6.564	m	OK

		FUEL TANK OPERATIONS										BALLAST OPERATIONS								
		DO deep tank S	DO serv and sett	FW tanks	HFO 1 P & S	HFO 2 P & S	HFO serv & sett	LO tanks	Misc oil	Misc water	Total tanks		APT	BW No. 5/TECH	BW No. 4	BW No. 3	BW No. 2	BW No. 1	FPT	Total BW tanks
		ton	ton	ton	ton	ton	ton	ton	ton	ton	ton		ton	ton	ton	ton	ton	ton	ton	ton
Dep. condition		50,0	56,4	100,0	0,0	800,0	168,4	56,7	0,0	8,8	1.240,3	WT	0	0	0	0	0	0	0	0
												DB		0	0	0	0	0	0	0
STEP 1	Change	-28,0	-8,4	0,0	0,0	-203,6	0,0	-5,6	4,1	45,0	-196,5	WT	Change							
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8	1.043,8	DB	Total							
STEP 2	Change										0,0	WT	Change							
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8	1.043,8	DB	Total		410					410
STEP 3	Change											WT	Change							
	Total											DB	Total							
STEP 4	Change											WT	Change							
	Total											DB	Total							
STEP 5	Change											WT	Change							
	Total											DB	Total							
STEP 6	Change											WT	Change							
	Total											DB	Total							
Arr. condition		0,0	25,0	15,0	0,0	20,0	168,4	11,3	8,1	98,9	346,7	WT	0	410	0	0	0	0	0	0
												DB		0	0	0	0	0	0	0

SUMMARY OF BALLASTING OPERATIONS DURING VOYAGE					CONDITION DRAUGHTS AND LONG. STRENGTH								
Name	Class ID		Initial condition:		L*17		d aft (m)	Trim (m)	d fwd (m)	Intact		Flooding	
			Final condition:		L*18	Dep. condition	12,85	0,61	12,24	S.F. (%)	B.M. (%)	S.F. (%)	B.M. (%)
	Cond. no. L*17		Cond. no. L*18		NOTES: At each step in the ballasting operation the allowable hull girder shear force and bending moment must not be exceeded. For other initial conditions or if another ballasting sequence is chosen, the vessels loadcomputer can be used to simulate the proces to make sure that strength is not exceeded during the operation. Reference: CB40.3580.11/055-01: Preliminary Stability Manual - M/S Bulkcarrier	Step 1	12,72	0,43	12,29	59,20	72,70	93,60	92,70
Lightweight	11.044,1	ton	11.044,1	ton		Step 2	12,91	0,66	12,24	60,90	73,10	93,70	93,10
Cargo	52.200,0	ton	52.200,0	ton		Step 3							
Crew, stores	55	ton	45	ton		Step 4							
Fuel etc	1.240	ton	347	ton		Step 5							
Ballast	0	ton	410	ton		Step 6							
Displacement	64.539	ton	64.046	ton		Arr. condition	12,47	0,01	12,46	59,30	70,10	92,70	90,60

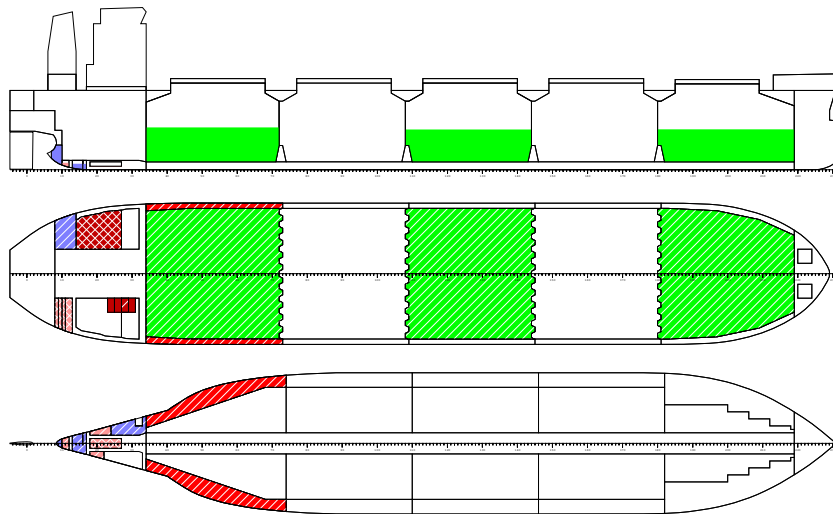
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-18, C3.00 CH 135 - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	64046 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.46 m		
Draught aft (below keel)	12.47 m		
Mean draught (below keel)	12.46 m	Trim	0.01 m
KM above the moulded base	13.68 m		
KG0 (solid)	6.87 m	GM0 (solid)	6.81 m
Free surface correction	0.18 m		-0.18 m
KG (fluid)	7.05 m	GM (fluid)	6.63 m
Actual heel	-0.04 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Heavy Cargo (RHO=3)							
CH1	NO.1 CARGO HOLD	16800.0	45	158.69	0.00	5.71	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	17750.0	44	101.22	0.00	5.65	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	17650.0	44	43.74	0.00	6.10	0

TOTAL		52200.0		100.28	0.00	5.82	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	205.0	24	43.16	10.69	1.80	759
WT5S	NO.5 WT BALLAST S	205.0	24	43.16	-10.69	1.80	759
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		410.0		43.16	0.00	1.80	10058

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53001.6	99.22	-0.01	5.83
Total weight	64045.8	96.61	-0.01	6.87

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.71

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.16 M

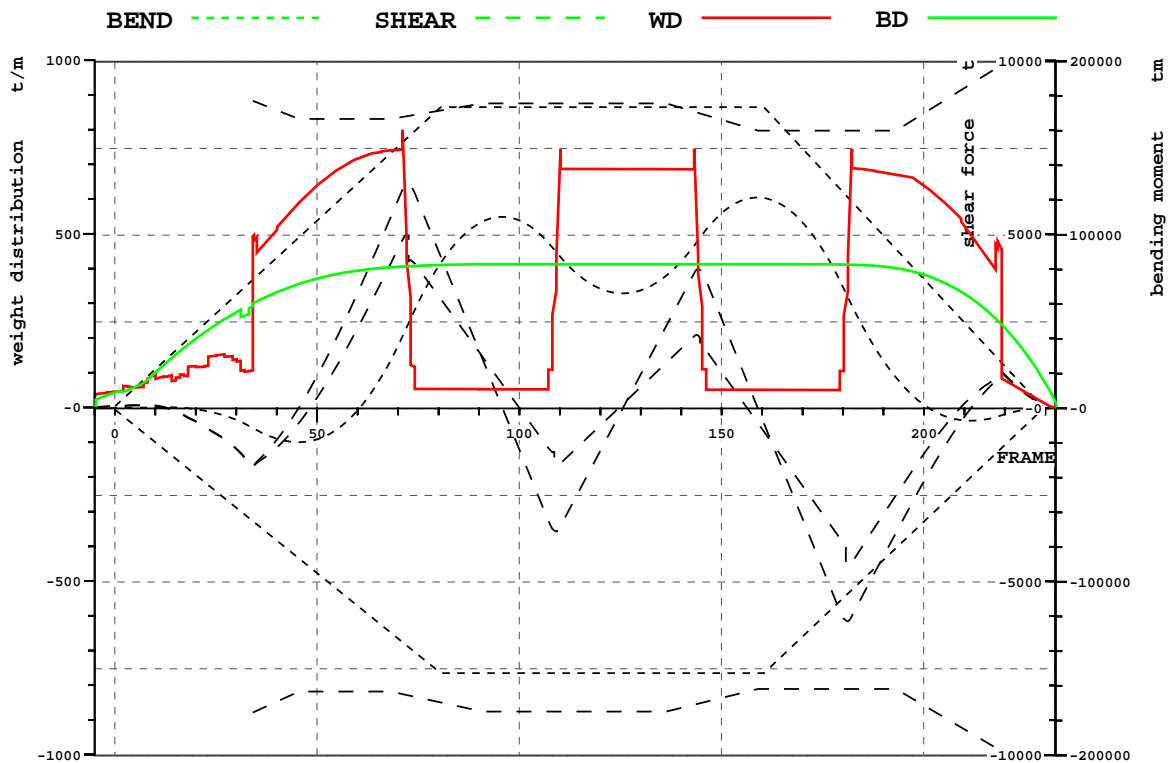
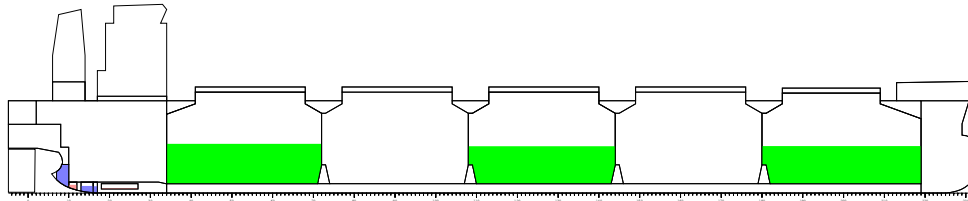
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.36 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.36 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.36 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.36 M

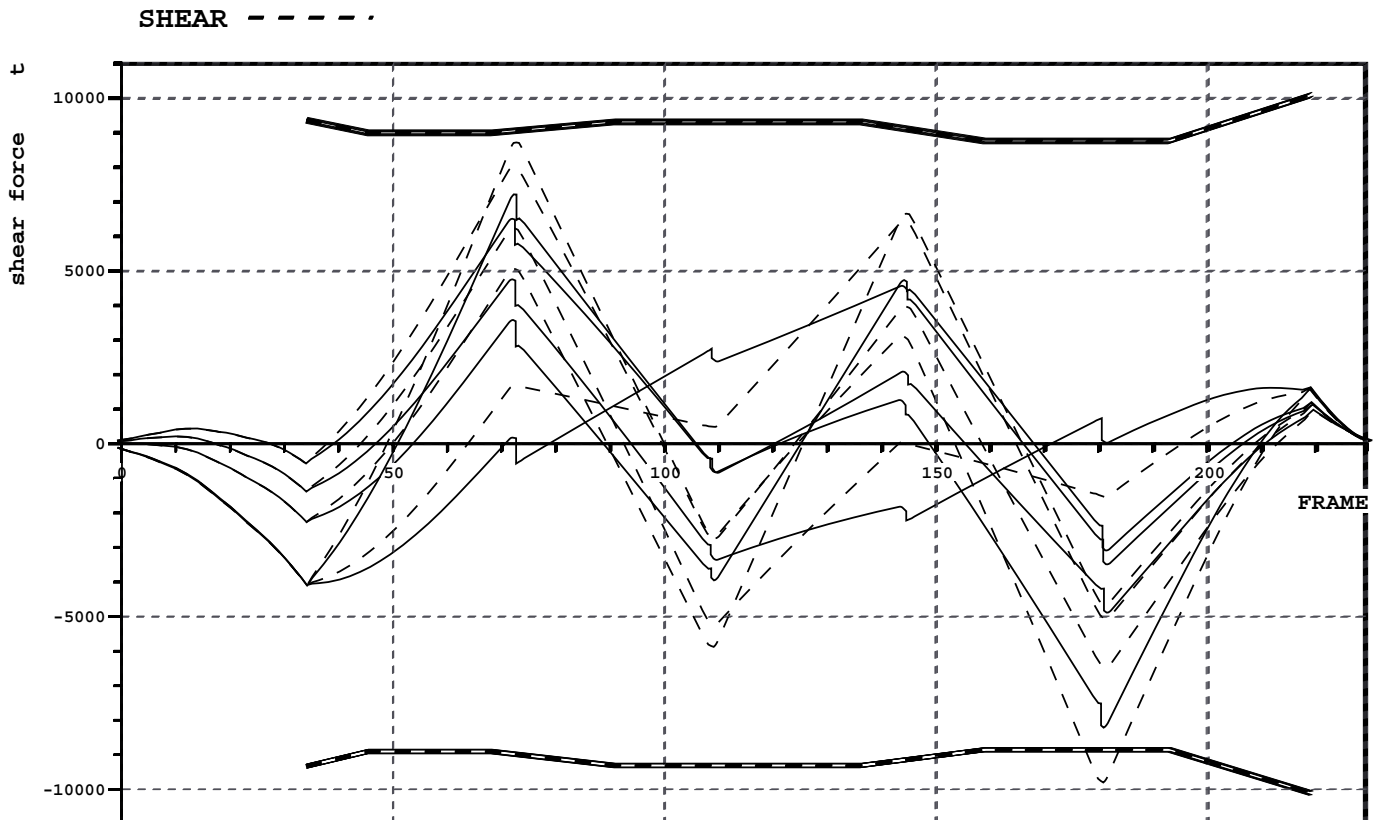
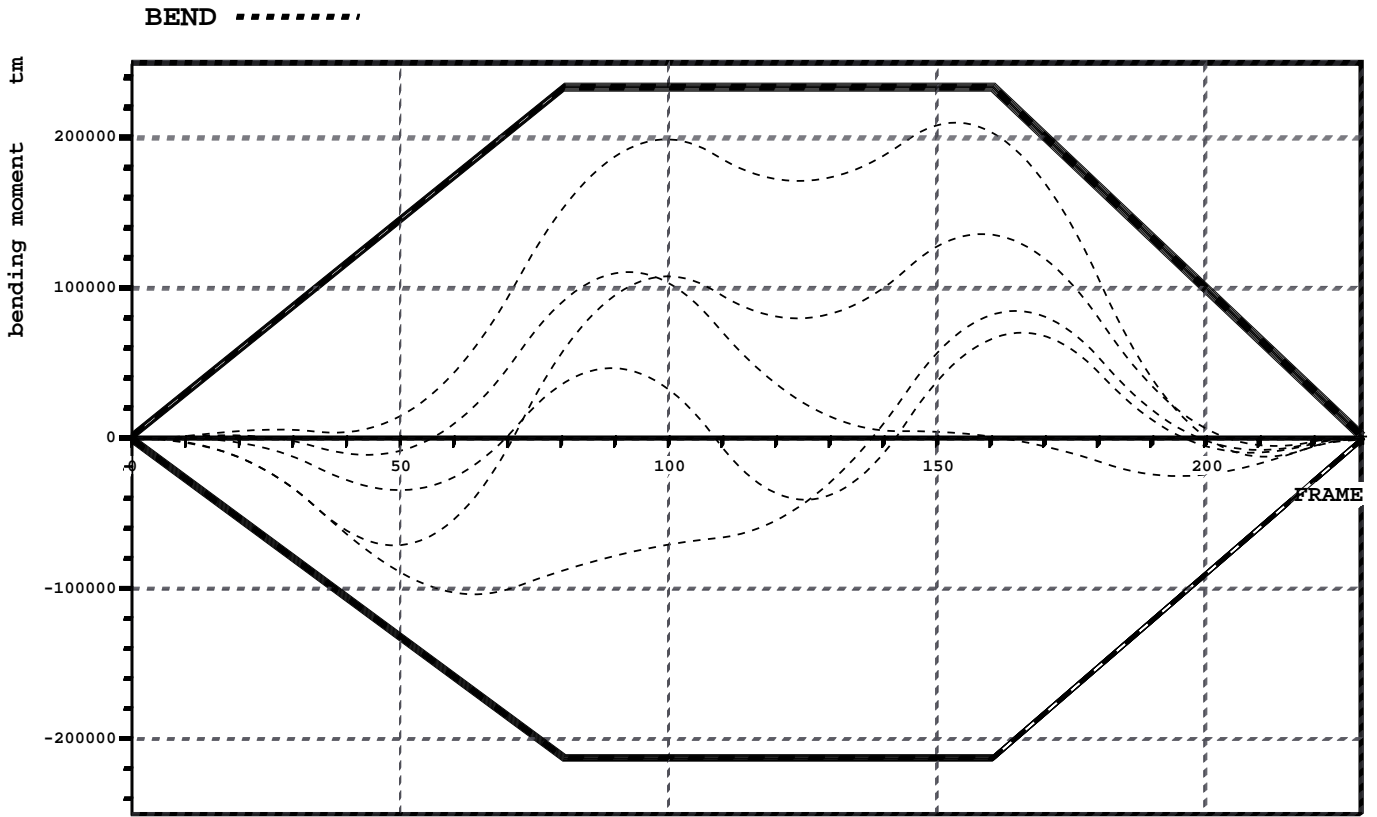
CHECK OF LONGITUDINAL STRENGTH



				X	FRAME
SHEAR FORCE (MIN,CORR)	-4563.8 t	(56.3%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	4970.4 t	(59.3%)		57.6 m	72
SAGGING MOMENT	-19592.1 tm	(22.6%)		36.4 m	46
HOGGING MOMENT	121510.3 tm	(70.1%)		127.0 m	159

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-11228	73770	-8786	-1707	-1707	8830
72.50	-137807	48620	156169	-8294	6459	4947	8395
72.50	-137811	48630	156173	-8294	6459	4213	8395
108.50	-152905	91698	173293	-8758	-3527	-1281	8758
108.50	-152905	91695	173293	-8758	-3527	-1552	8758
144.50	-152905	97914	173293	-8517	3976	2000	8468
144.50	-152905	97921	173293	-8517	3975	1730	8467
180.50	-108361	67360	122770	-8106	-6115	-3869	7971
180.50	-108357	67350	122765	-8106	-6115	-4506	7971
219.00	-23246	-4224	26231	-9904	1032	1032	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



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LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-8206.1 t (92.7%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	6532.1 t (72.2%)		57.6 m	72
SAGGING MOMENT	-11312.7 tm (20.0%)		168.9 m	211
HOGGING MOMENT	211233.1 tm (90.6%)		122.9 m	154

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3356.4 t (36.1%)	POSITION:	87.6 m	110
SHEAR FORCE (MAX,CORR)	4764.2 t (52.7%)		57.6 m	72
SAGGING MOMENT	-24743.0 tm (23.4%)		156.1 m	195
HOGGING MOMENT	111106.0 tm (47.6%)		74.3 m	93

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3955.4 t (42.5%)	POSITION:	87.2 m	109
SHEAR FORCE (MAX,CORR)	4727.6 t (51.8%)		115.2 m	144
SAGGING MOMENT	-40976.6 tm (19.2%)		100.5 m	126
HOGGING MOMENT	70124.2 tm (32.6%)		132.6 m	166

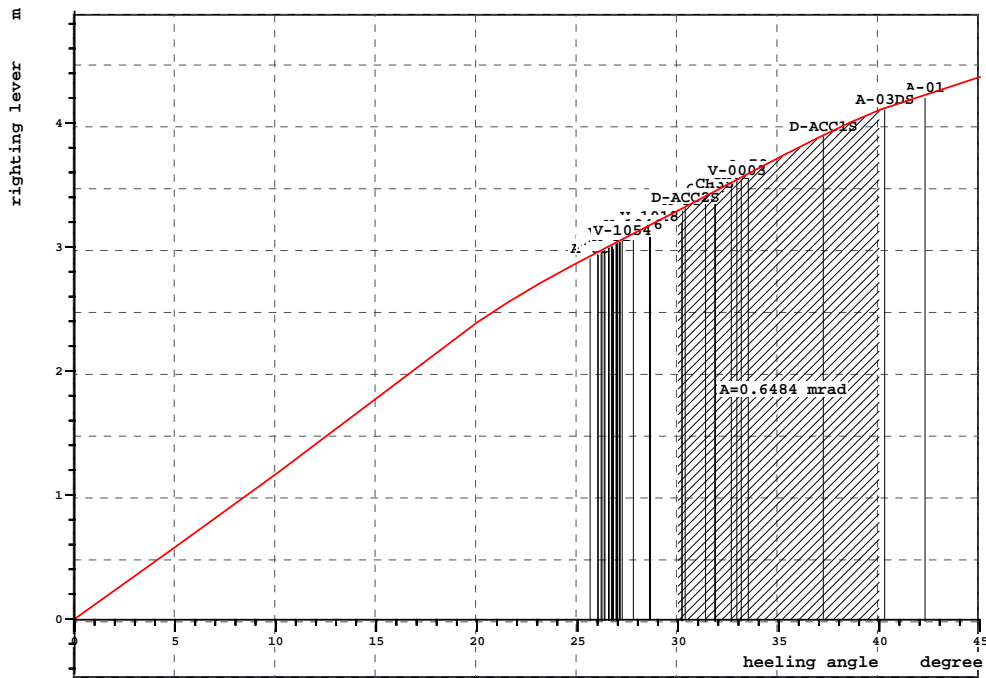
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4101.4 t (44.0%)	POSITION:	27.2 m	34
SHEAR FORCE (MAX,CORR)	4552.3 t (49.9%)		114.8 m	144
SAGGING MOMENT	-104454 tm (61.8%)		51.0 m	64
HOGGING MOMENT	83966.5 tm (38.2%)		131.5 m	164

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4902.6 t (55.4%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	7181.0 t (79.3%)		57.8 m	72
SAGGING MOMENT	-72413.2 tm (55.9%)		39.0 m	49
HOGGING MOMENT	134481.9 tm (57.7%)		126.3 m	158

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.912	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.561	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.648	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.372	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	6.629	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.187		OK
GMD	GM > 1.20 m ref. damage stability	1.200	6.629	m	OK

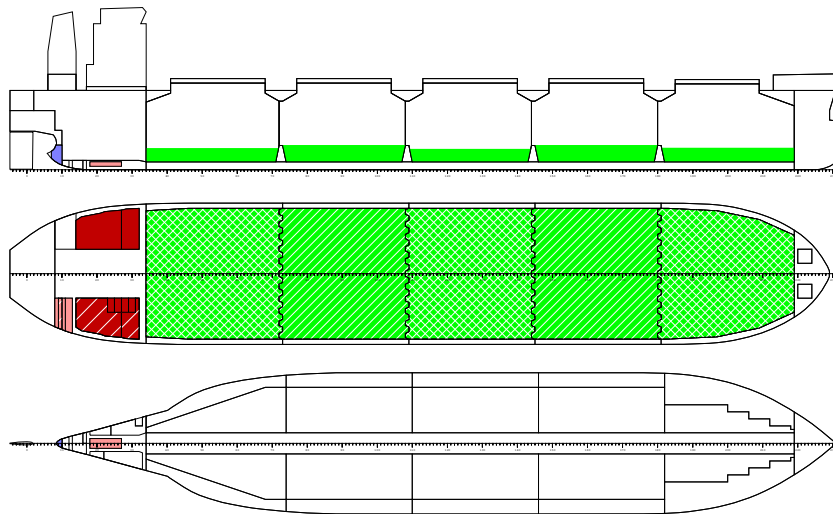
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-19, STEEL COILS - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	64236 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.30 m		
Draught aft (below keel)	12.68 m		
Mean draught (below keel)	12.49 m	Trim	0.39 m
KM above the moulded base	13.70 m		
KG0 (solid)	5.38 m	GM0 (solid)	8.33 m
Free surface correction	0.17 m		-0.17 m
KG (fluid)	5.54 m	GM (fluid)	8.16 m
Actual heel	-0.30 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Steel Coil (RHO=4.2)							
CH1	NO.1 CARGO HOLD	9200.0	18	158.55	0.00	3.48	0
CH2	NO.2 CARGO HOLD	12150.0	22	130.00	0.00	3.79	0
CH3	NO.3 CARGO HOLD	9150.0	16	101.20	0.00	3.33	0
CH4	NO.4 CARGO HOLD	12150.0	22	72.40	0.00	3.79	0
CH5	NO.5 CARGO HOLD	8100.0	15	44.41	0.00	3.47	0

TOTAL		50750.0		102.53	0.00	3.60	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		0.0		0.00	0.00	0.00	8540

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53191.4	98.62	-0.06	4.03
Total weight	64235.5	96.12	-0.05	5.38

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.74

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.27 M

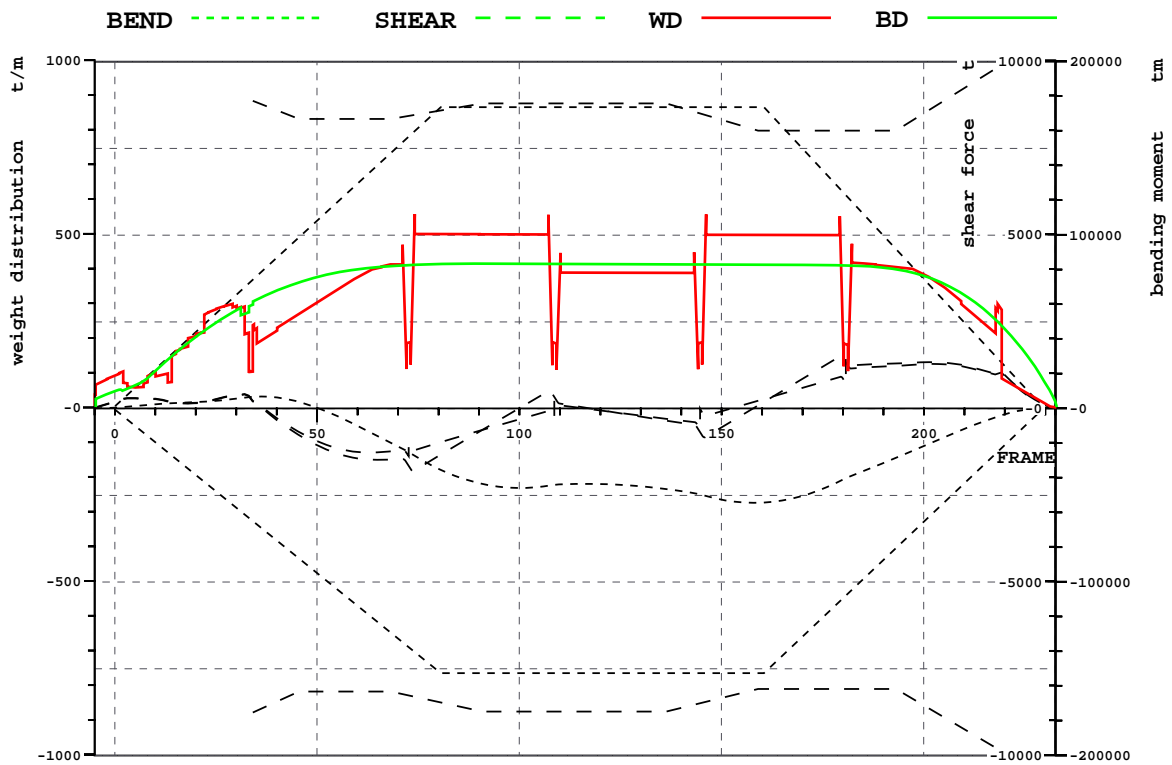
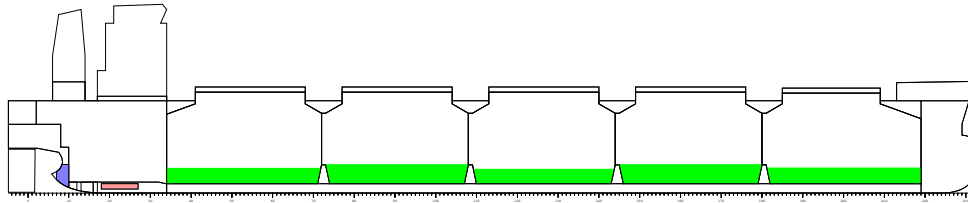
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.41 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.35 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.29 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.23 M

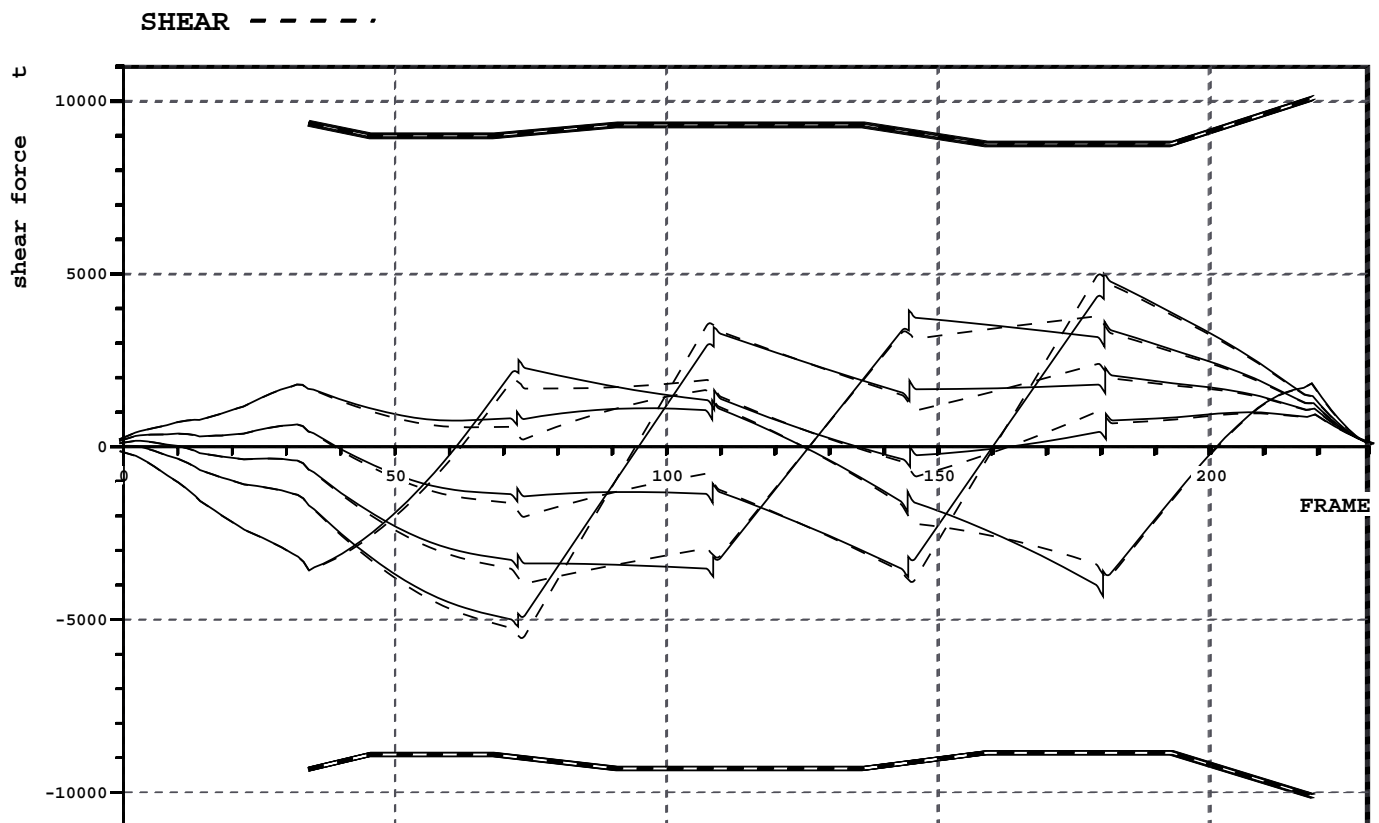
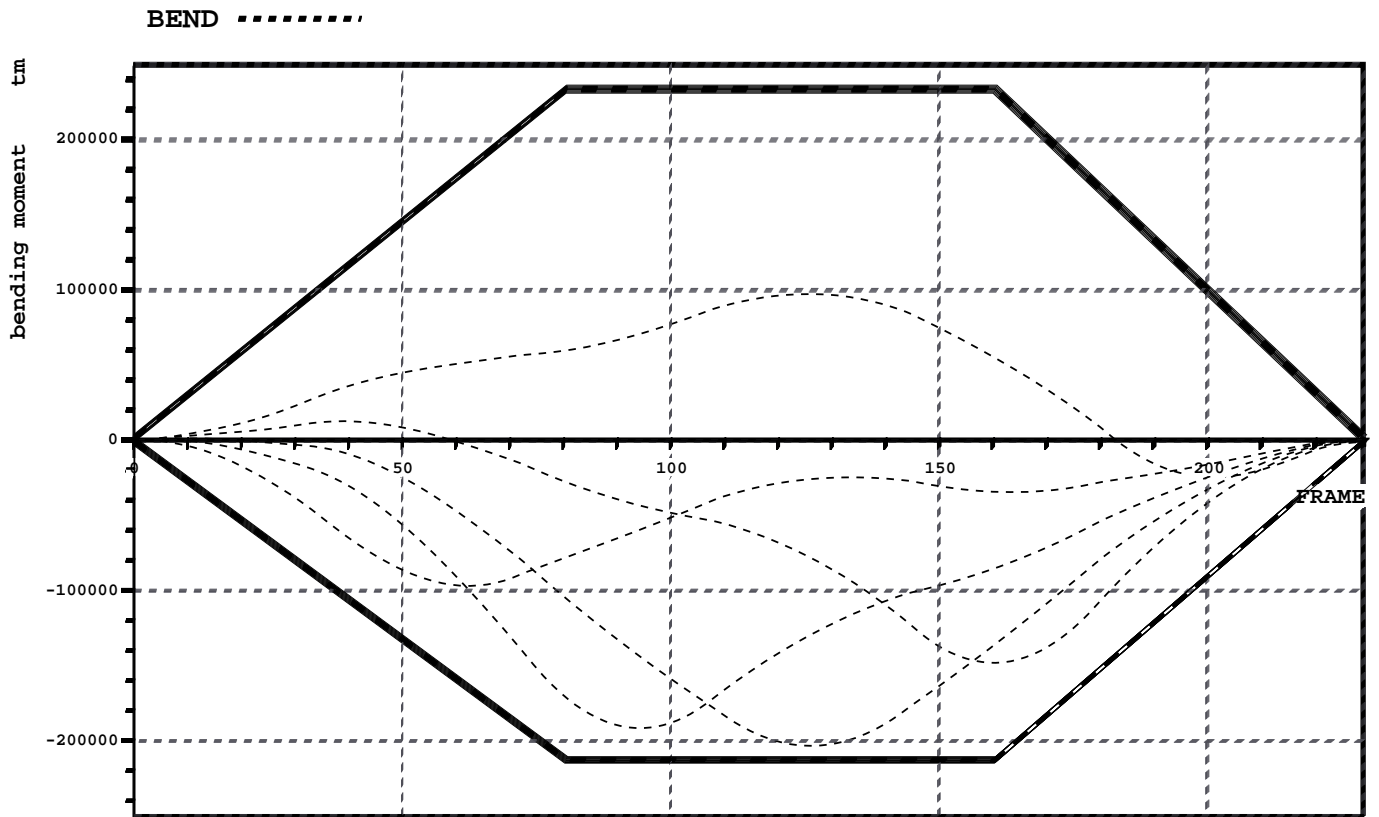
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-1407.5 t	(17.0%)	58.0 m	73
SHEAR FORCE (MAX,CORR)	1406.6 t	(17.6%)	144.4 m	181
SAGGING MOMENT	-54512.2 tm	(35.7%)	126.4 m	158
HOGGING MOMENT	6789.9 tm	(8.7%)	29.0 m	36

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	6605	73770	-8786	187	187	8830
72.50	-137807	-25096	156169	-8294	-1663	-1407	8395
72.50	-137811	-25099	156173	-8294	-1663	-1032	8395
108.50	-152905	-44128	173293	-8758	324	-307	8758
108.50	-152905	-44128	173293	-8758	324	252	8758
144.50	-152905	-49537	173293	-8517	-688	-617	8468
144.50	-152905	-49538	173293	-8517	-689	-35	8467
180.50	-108361	-40445	122770	-8106	1326	673	7971
180.50	-108357	-40443	122765	-8106	1325	1407	7971
219.00	-23246	-4167	26231	-9904	1017	1017	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



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LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4315.3 t	(48.7%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	1853.2 t	(18.4%)		175.2 m 219
SAGGING MOMENT	-23570.2 tm	(27.1%)		160.9 m 201
HOGGING MOMENT	98423.5 tm	(42.2%)		100.8 m 126

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3756.3 t	(41.1%)	POSITION:	115.6 m 145
SHEAR FORCE (MAX,CORR)	5019.4 t	(57.3%)		144.4 m 181
SAGGING MOMENT	-147686 tm	(69.3%)		128.1 m 160
HOGGING MOMENT	13135.7 tm	(11.5%)		31.4 m 39

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3760.9 t	(40.4%)	POSITION:	86.8 m 108
SHEAR FORCE (MAX,CORR)	3938.3 t	(43.2%)		115.6 m 145
SAGGING MOMENT	-203456 tm	(95.5%)		100.8 m 126
HOGGING MOMENT	1183.4 tm	(3.8%)		8.4 m 10

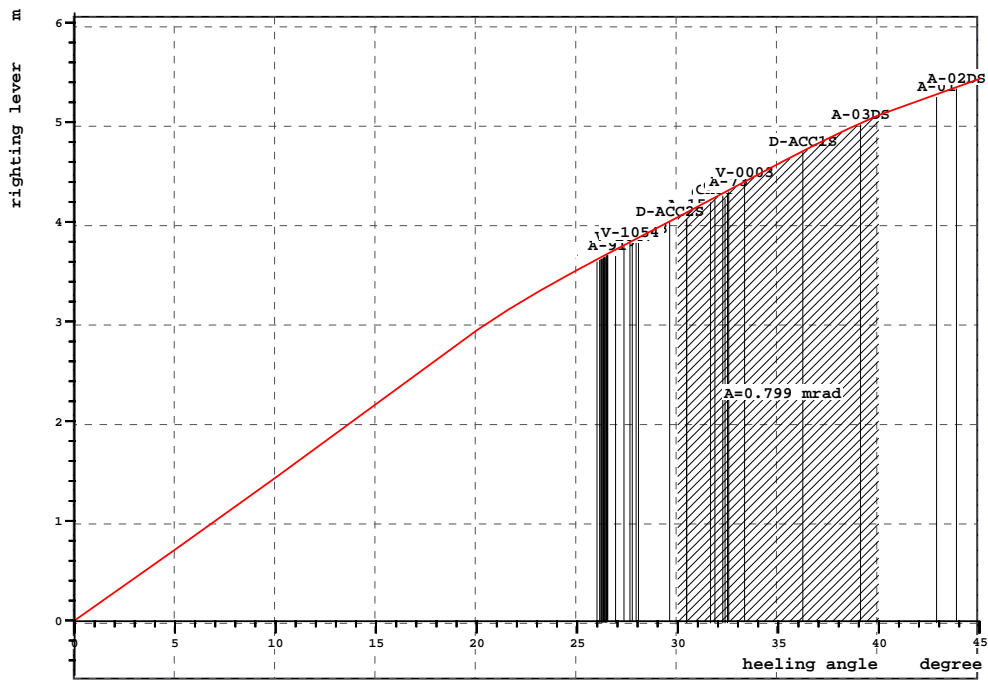
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5214.1 t	(58.0%)	POSITION:	58.0 m 73
SHEAR FORCE (MAX,CORR)	3439.9 t	(36.9%)		86.8 m 109
SAGGING MOMENT	-192102 tm	(90.2%)		75.4 m 94
HOGGING MOMENT	23.8 tm	(0.3%)		1.7 m 2

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3598.2 t	(38.6%)	POSITION:	27.2 m 34
SHEAR FORCE (MAX,CORR)	2484.7 t	(27.4%)		58.0 m 73
SAGGING MOMENT	-98026.5 tm	(59.3%)		49.9 m 62
HOGGING MOMENT	10.7 tm	(1.1%)		184.9 m 231

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.117	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.916	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.799	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	5.437	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	8.159	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.673		OK
GMD	GM > 1.20 m ref. damage stability	1.200	8.159	m	OK

		FUEL TANK OPERATIONS										BALLAST OPERATIONS							
		DO deep tank S	DO serv and sett	FW tanks	HFO 1 P & S	HFO 2 P & S	HFO serv & sett	LO tanks	Misc oil	Misc water	Total tanks	APT	BW No. 5/TECH	BW No. 4	BW No. 3	BW No. 2	BW No. 1	FPT	Total BW tanks
		ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton
Dep. condition		138,7	56,4	239,1	723,7	937,9	168,4	113,5	0,0	8,8	2.386,5	WT DB	0	0 0	0 0	0 0	0 0	0 0	0 0
STEP 1	Change	-30,0	0,0	-61,1	-428,7	0,0	0,0	-42,4	4,1	45,0	-513,1	WT DB	Change						
	Total	108,7	56,4	178,0	295,0	937,9	168,4	71,1	4,1	53,8	1.873,4	WT DB	Total						
STEP 2	Change										0,0	WT DB	Change	658	1.420				
	Total	108,7	56,4	178,0	295,0	937,9	168,4	71,1	4,1	53,8	1.873,4	WT DB	Total						2.078
STEP 3	Change											WT DB	Change						
	Total											WT DB	Total						
STEP 4	Change											WT DB	Change						
	Total											WT DB	Total						
STEP 5	Change											WT DB	Change						
	Total											WT DB	Total						
STEP 6	Change											WT DB	Change						
	Total											WT DB	Total						
Arr. condition		0,0	25,0	15,0	0,0	20,0	168,4	11,3	8,1	98,9	346,7	WT DB	658	1.420 0	0 0	0 0	0 0	0 0	0 0

SUMMARY OF BALLASTING OPERATIONS DURING VOYAGE										CONDITION DRAUGHTS AND LONG. STRENGTH												
Name	Class ID		Initial condition:				L*19				d aft (m)		Trim (m)	d fwd (m)		Intact S.F. (%) B.M. (%)		Flooding S.F. (%) B.M. (%)				
Final condition:										L*20				Dep. condition	12,68	0,39	12,30	17,60	35,70	58,00	95,50	
	Cond. no. L*19		Cond. no. L*20		NOTES: At each step in the ballasting operation the allowable hull girder shear force and bending moment must not be exceeded. For other initial conditions or if another ballasting sequence is chosen, the vessels loadcomputer can be used to simulate the proces to make sure that strength is not exceeded during the operation. Reference: CB40.3580.11/055-01: Preliminary Stability Manual - M/S Bulkcarrier										Step 1	12,38	-0,05	12,43	18,60	37,90	58,70	97,60
Lightweight	11.044,1	ton	11.044,1	ton											Step 2	13,63	1,67	11,96	15,60	31,10	55,50	92,20
Cargo	50.750,0	ton	50.750,0	ton											Step 3							
Crew, stores	55	ton	45	ton											Step 4							
Fuel etc	2.387	ton	347	ton											Step 5							
Ballast	0	ton	2.078	ton											Step 6							
Displacement	64.236	ton	64.264	ton											Arr. condition	12,56	0,12	12,44	18,90	38,60	48,50	64,10

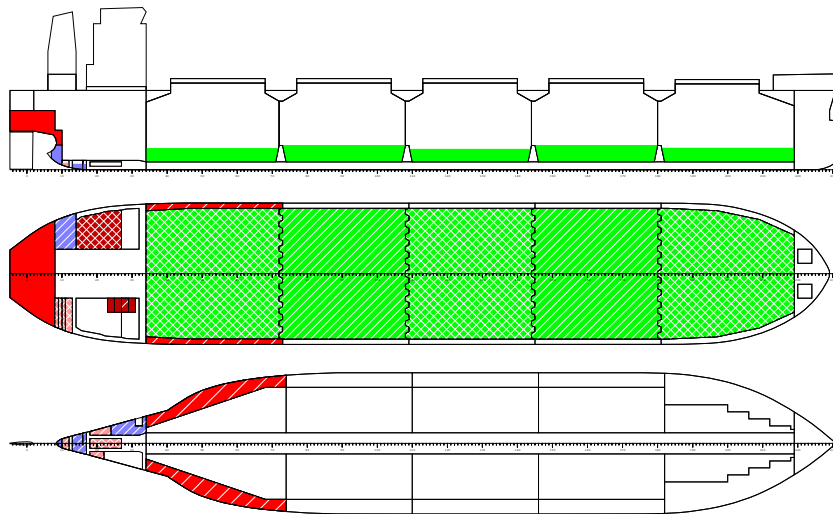
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-20, STEEL COILS - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	64264 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.44 m		
Draught aft (below keel)	12.56 m		
Mean draught (below keel)	12.50 m	Trim	0.12 m
KM above the moulded base	13.69 m		
KG0 (solid)	5.17 m	GM0 (solid)	8.52 m
Free surface correction	0.16 m		-0.16 m
KG (fluid)	5.33 m	GM (fluid)	8.36 m
Actual heel	-0.03 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Steel Coil (RHO=4.2)							
CH1	NO.1 CARGO HOLD	9200.0	18	158.55	0.00	3.48	0
CH2	NO.2 CARGO HOLD	12150.0	22	130.00	0.00	3.79	0
CH3	NO.3 CARGO HOLD	9150.0	16	101.20	0.00	3.33	0
CH4	NO.4 CARGO HOLD	12150.0	22	72.40	0.00	3.79	0
CH5	NO.5 CARGO HOLD	8100.0	15	44.41	0.00	3.47	0

TOTAL		50750.0		102.53	0.00	3.60	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	710.0	82	40.72	12.42	4.49	14
WT5S	NO.5 WT BALLAST S	710.0	82	40.72	-12.42	4.49	14
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	8540

SUBTOTAL		2078.2		28.56	0.00	6.72	8569

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53219.9	99.02	-0.01	3.78
Total weight	64264.0	96.45	-0.01	5.17

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.71

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.17 M

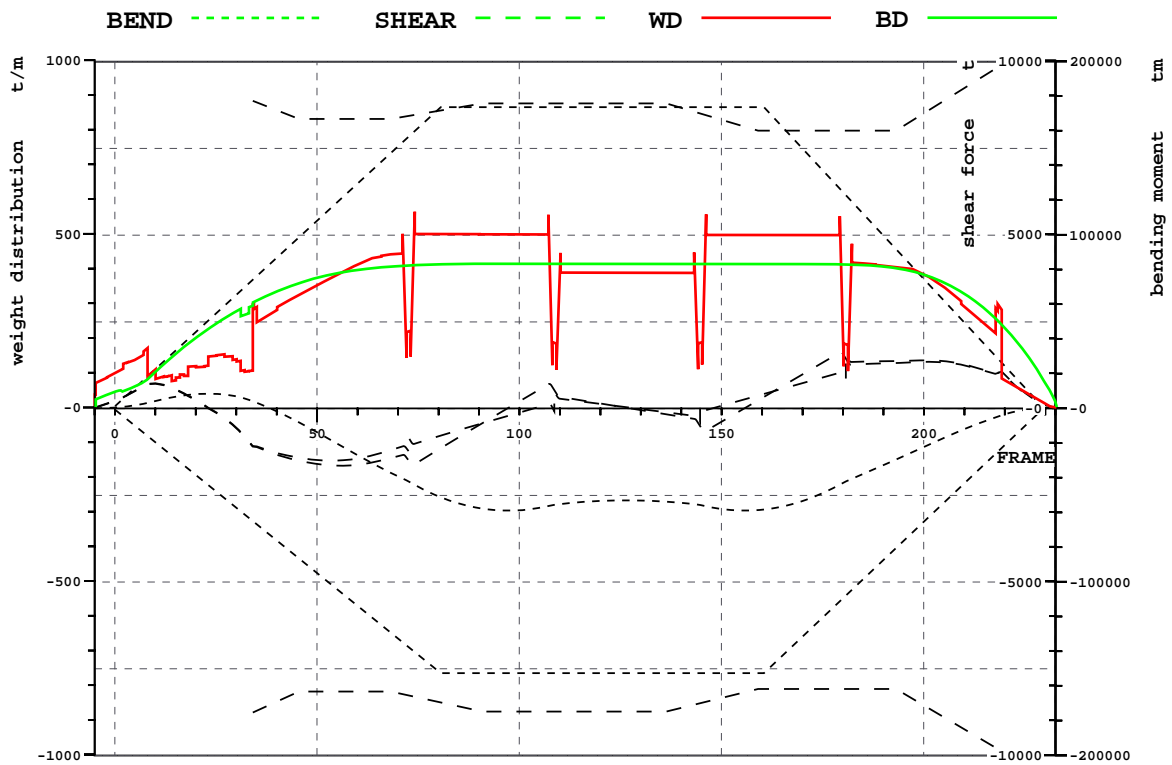
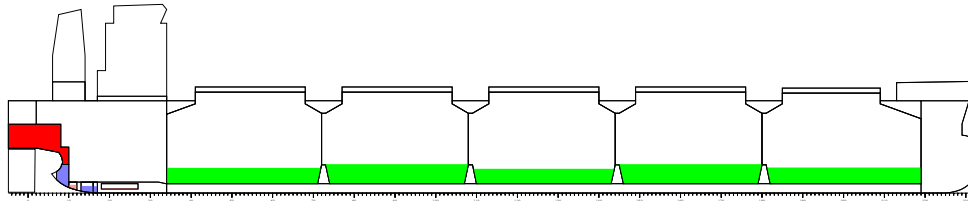
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.35 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.33 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.31 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.29 M

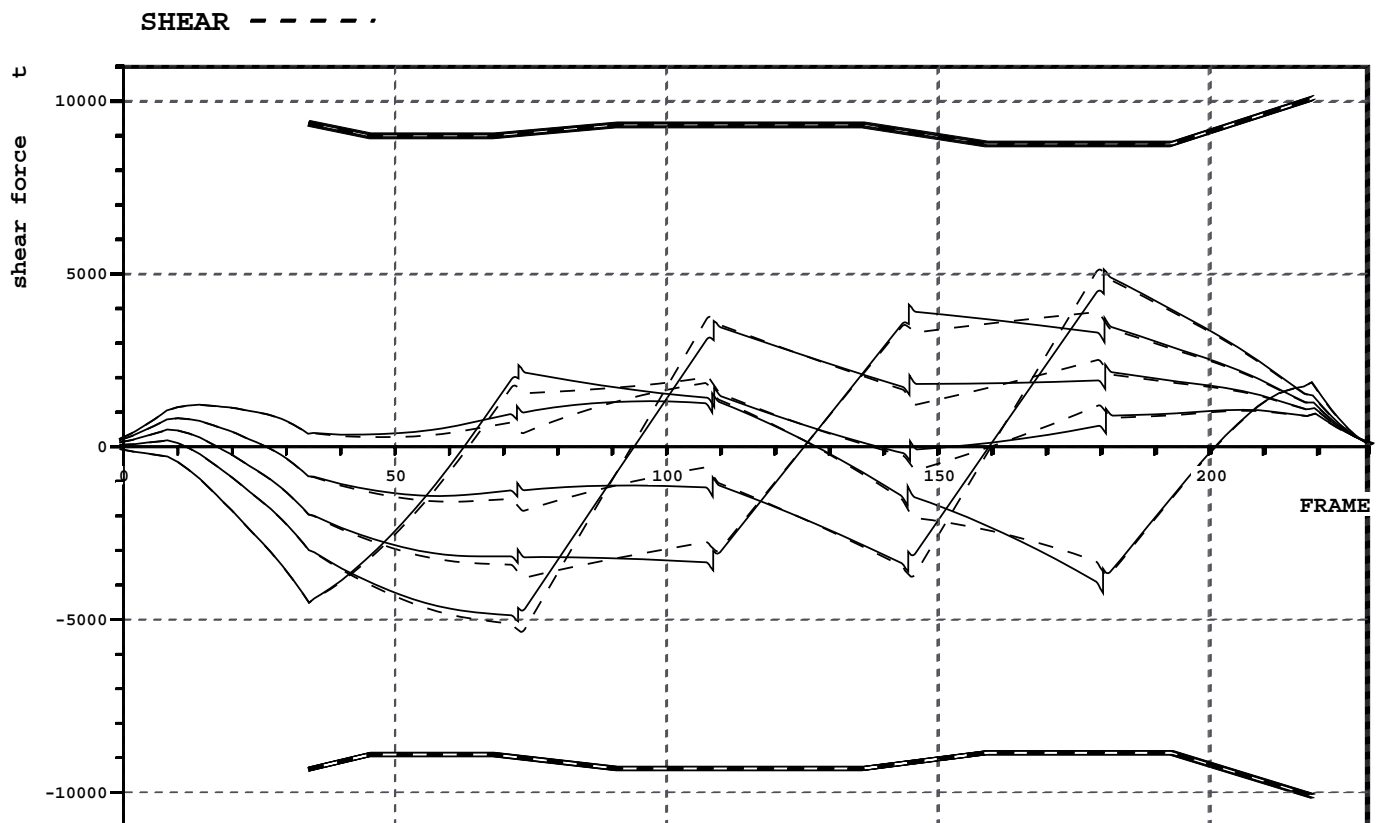
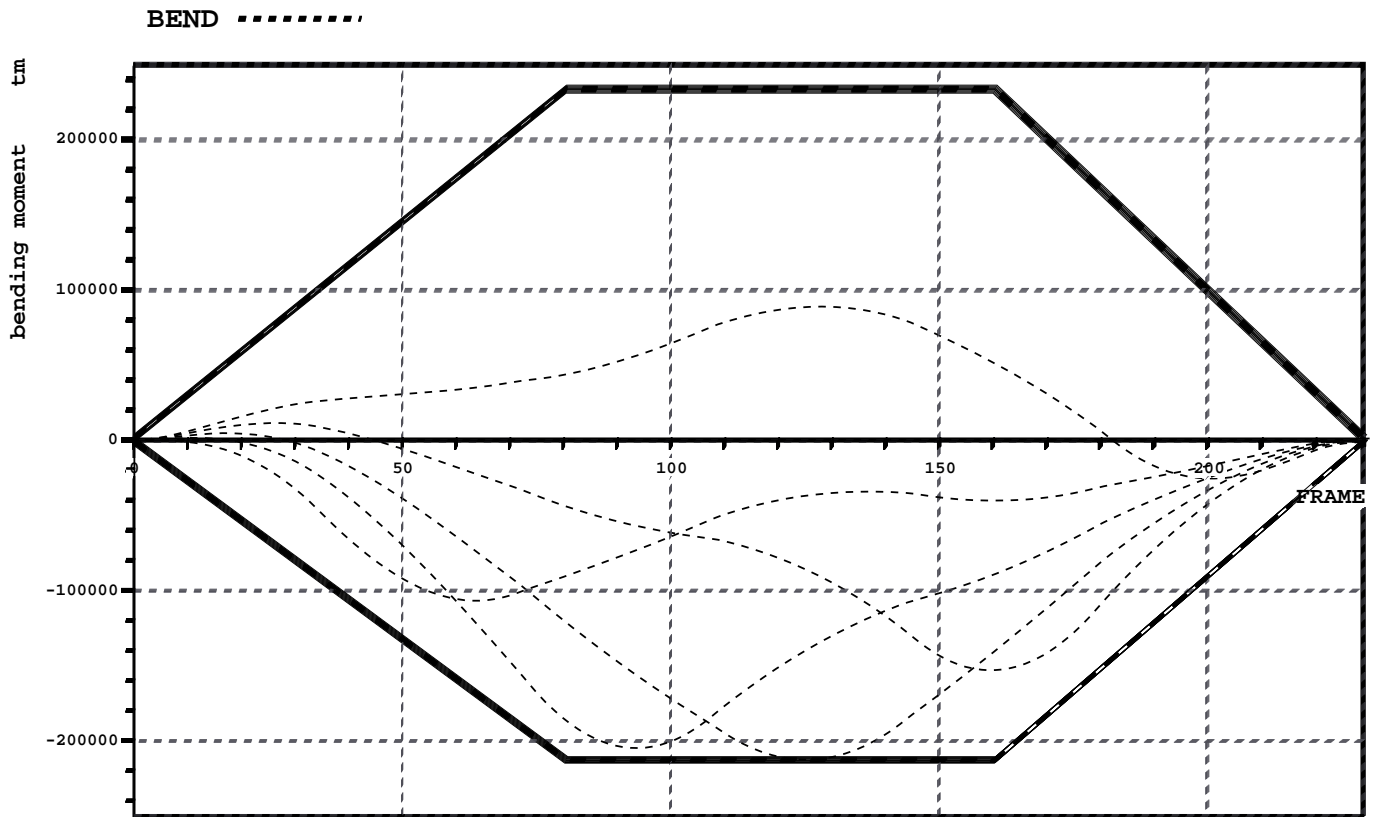
CHECK OF LONGITUDINAL STRENGTH



				X	FRAME
SHEAR FORCE (MIN,CORR)	-1534.1 t	(18.8%)	POSITION:	42.9 m	54
SHEAR FORCE (MAX,CORR)	1503.5 t	(18.9%)		144.4 m	181
SAGGING MOMENT	-58996.9 tm	(38.6%)		78.0 m	97
HOGGING MOMENT	8414.2 tm	(16.8%)		18.4 m	23

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	4164	73770	-8786	-1115	-1115	8830
72.50	-137807	-42079	156169	-8294	-1508	-1261	8395
72.50	-137811	-42081	156173	-8294	-1508	-873	8395
108.50	-152905	-55643	173293	-8758	521	-114	8758
108.50	-152905	-55643	173293	-8758	521	445	8758
144.50	-152905	-55651	173293	-8517	-514	-438	8468
144.50	-152905	-55652	173293	-8517	-514	128	8467
180.50	-108361	-42374	122770	-8106	1438	796	7971
180.50	-108357	-42371	122765	-8106	1438	1503	7971
219.00	-23246	-4194	26231	-9904	1031	1031	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4224.1 t	(47.7%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	1884.8 t	(18.7%)		175.2 m 219
SAGGING MOMENT	-24515.8 tm	(28.0%)		160.8 m 201
HOGGING MOMENT	90016.9 tm	(38.6%)		102.7 m 128

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3597.2 t	(39.4%)	POSITION:	115.6 m 145
SHEAR FORCE (MAX,CORR)	5142.0 t	(58.7%)		144.4 m 181
SAGGING MOMENT	-152659 tm	(71.7%)		127.8 m 160
HOGGING MOMENT	11870.2 tm	(15.2%)		21.4 m 27

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3577.6 t	(38.4%)	POSITION:	86.8 m 108
SHEAR FORCE (MAX,CORR)	4109.3 t	(45.1%)		115.6 m 145
SAGGING MOMENT	-212722 tm	(99.9%)		100.1 m 125
HOGGING MOMENT	4593.9 tm	(9.2%)		13.6 m 17

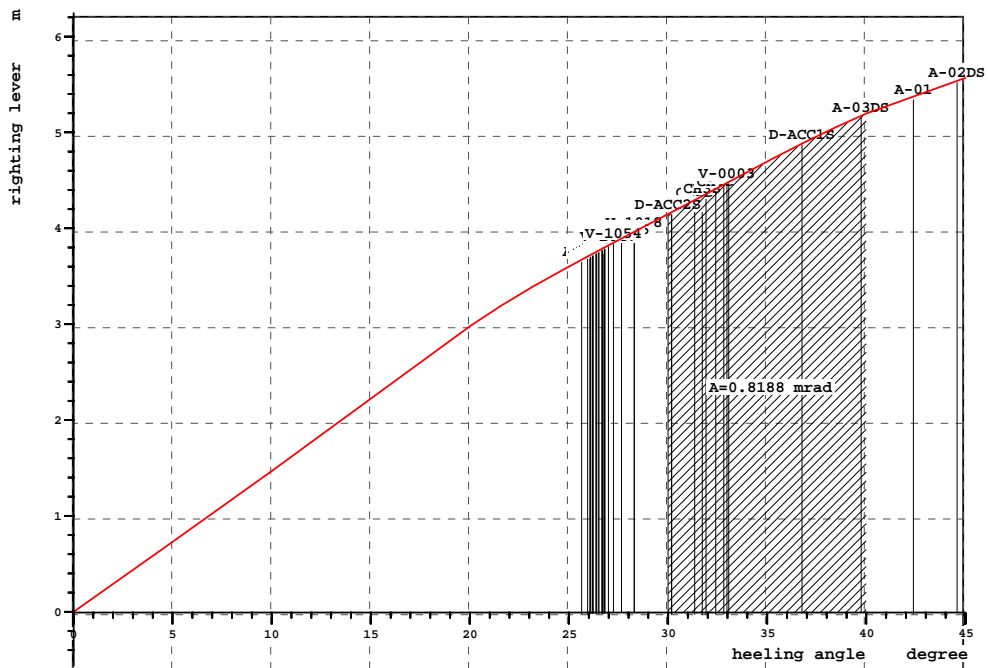
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5059.7 t	(56.3%)	POSITION:	58.0 m 73
SHEAR FORCE (MAX,CORR)	3625.0 t	(38.9%)		86.8 m 109
SAGGING MOMENT	-205366 tm	(96.4%)		74.6 m 93
HOGGING MOMENT	889.0 tm	(2.7%)		8.8 m 11

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4527.3 t	(48.5%)	POSITION:	27.2 m 34
SHEAR FORCE (MAX,CORR)	2334.3 t	(25.8%)		58.0 m 73
SAGGING MOMENT	-107862 tm	(64.1%)		50.8 m 64
HOGGING MOMENT	12.3 tm	(1.2%)		184.9 m 231

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.143	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.962	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.819	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	5.571	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GMO.15	GM > 0.15 m	0.150	8.361	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.779		OK
GMD	GM > 1.20 m ref. damage stability	1.200	8.361	m	OK

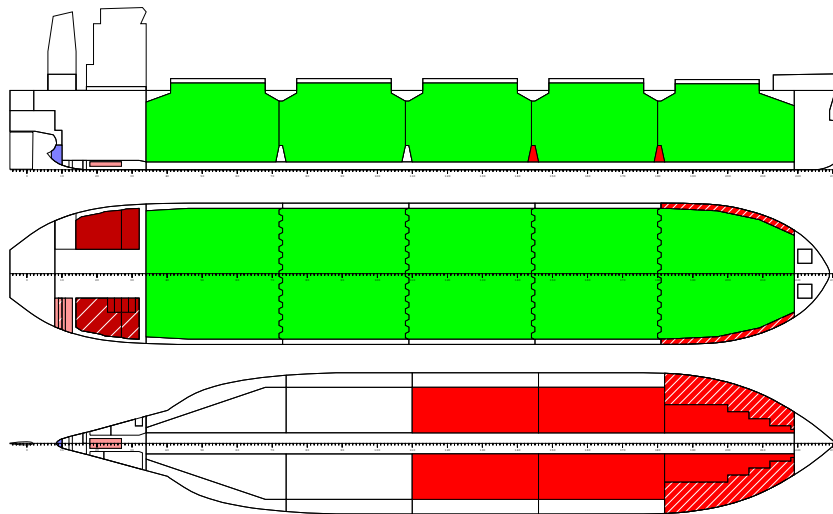
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-21, TIMBER LOAD - DEP 100 %

FLOATING POSITION / calculation method: free trim

Displacement	63437 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.07 m		
Draught aft (below keel)	12.62 m		
Mean draught (below keel)	12.35 m	Trim	0.55 m
KM above the moulded base	13.71 m		
KG0 (solid)	12.22 m	GM0 (solid)	1.49 m
Free surface correction	0.20 m		-0.20 m
KG (fluid)	12.41 m	GM (fluid)	1.30 m
Actual heel	-0.25 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.54)							
CH1	NO.1 CARGO HOLD	6716.5	100	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	7207.4	100	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	7208.3	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	7207.3	100	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	7166.6	100	43.26	0.00	10.52	0

TOTAL		35506.1		100.38	0.00	10.26	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Deck Cargo 58 cf/lt (RHO=0.856)							
TL1	NO.1 TIMBER LOAD	1950.0	0	157.60	0.00	22.50	0
TL2	NO.2 TIMBER LOAD	2200.0	0	130.00	0.00	22.70	0
TL3	NO.3 TIMBER LOAD	2200.0	0	101.20	0.00	22.70	0
TL4	NO.4 TIMBER LOAD	2200.0	0	72.40	0.00	22.70	0
TL5	NO.5 TIMBER LOAD	2200.0	0	43.60	0.00	22.70	0

SUBTOTAL		10750.0		99.64	0.00	22.66	0
CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0
CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0
CONTENTS=Misc Water (RHO=1)							
STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224
CONTENTS=Water Ballast (RHO=1.025)							
FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	450.0	41	159.49	11.03	1.84	331
WT1S	NO.1 WT BALLAST S	250.0	23	158.35	-10.14	1.00	1370
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	8540

SUBTOTAL		3694.9		131.46	0.66	1.25	10241

LIGHT SHIP AND DEAD WEIGHT

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Lightweight	11044.1	84.08	0.00	11.85
Deadweight	52392.4	98.55	-0.01	12.29
Total weight	63436.5	96.03	-0.01	12.22

Carl Bro a/s - DMC
NAPA/D/LD/060614
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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.76

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.47 M

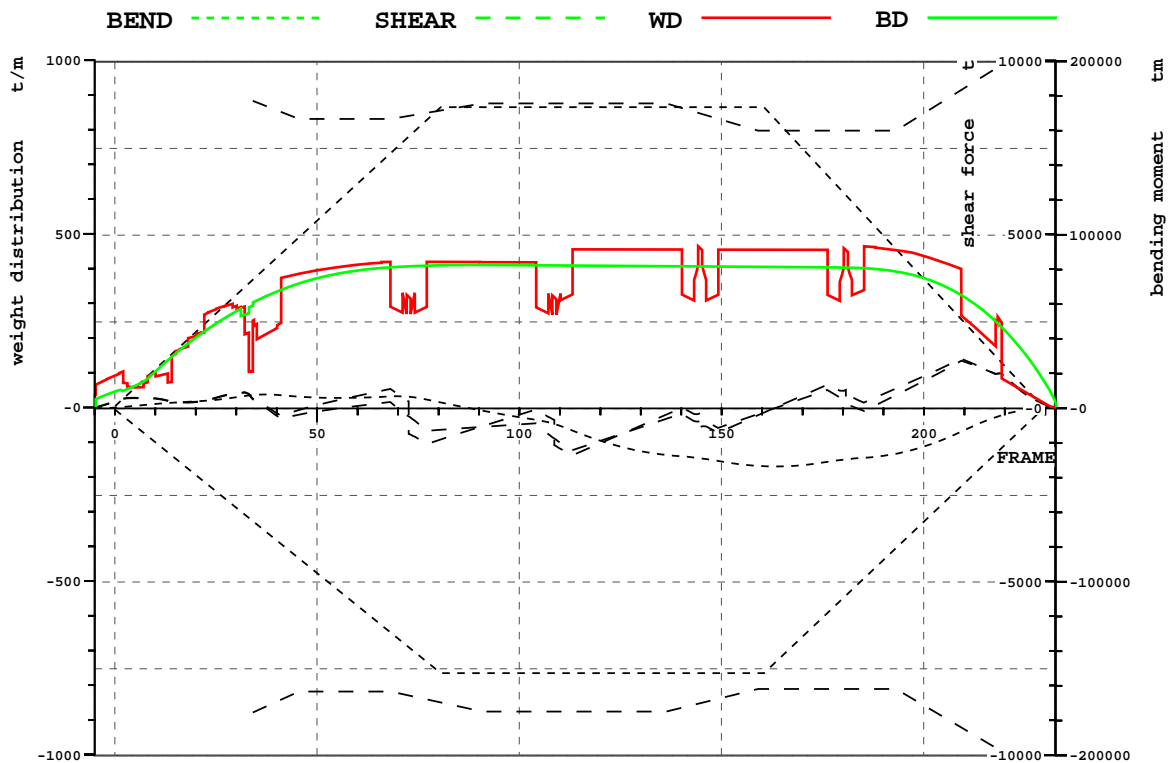
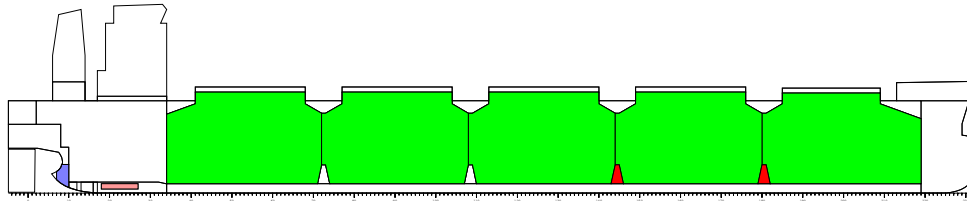
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.59 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.50 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.42 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.33 M

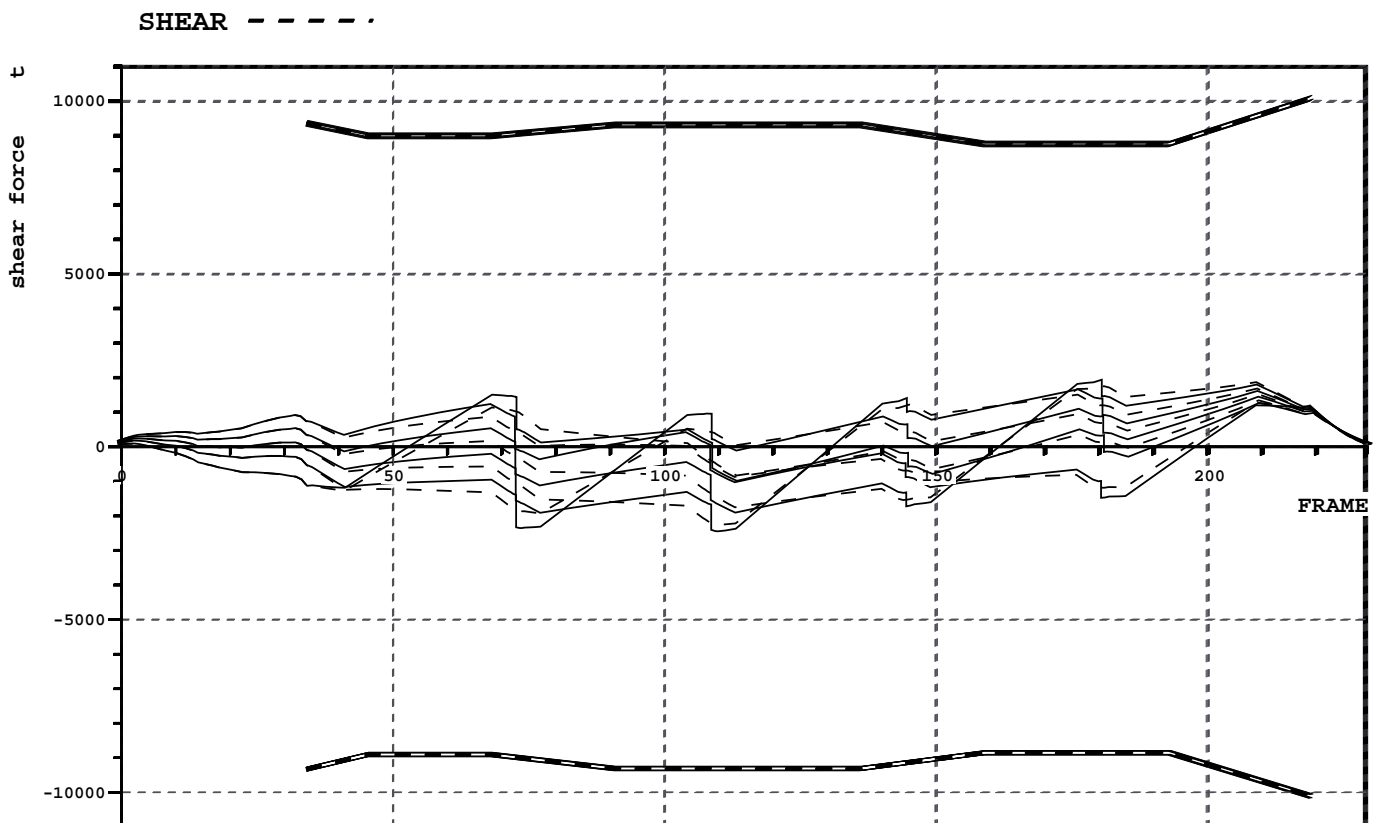
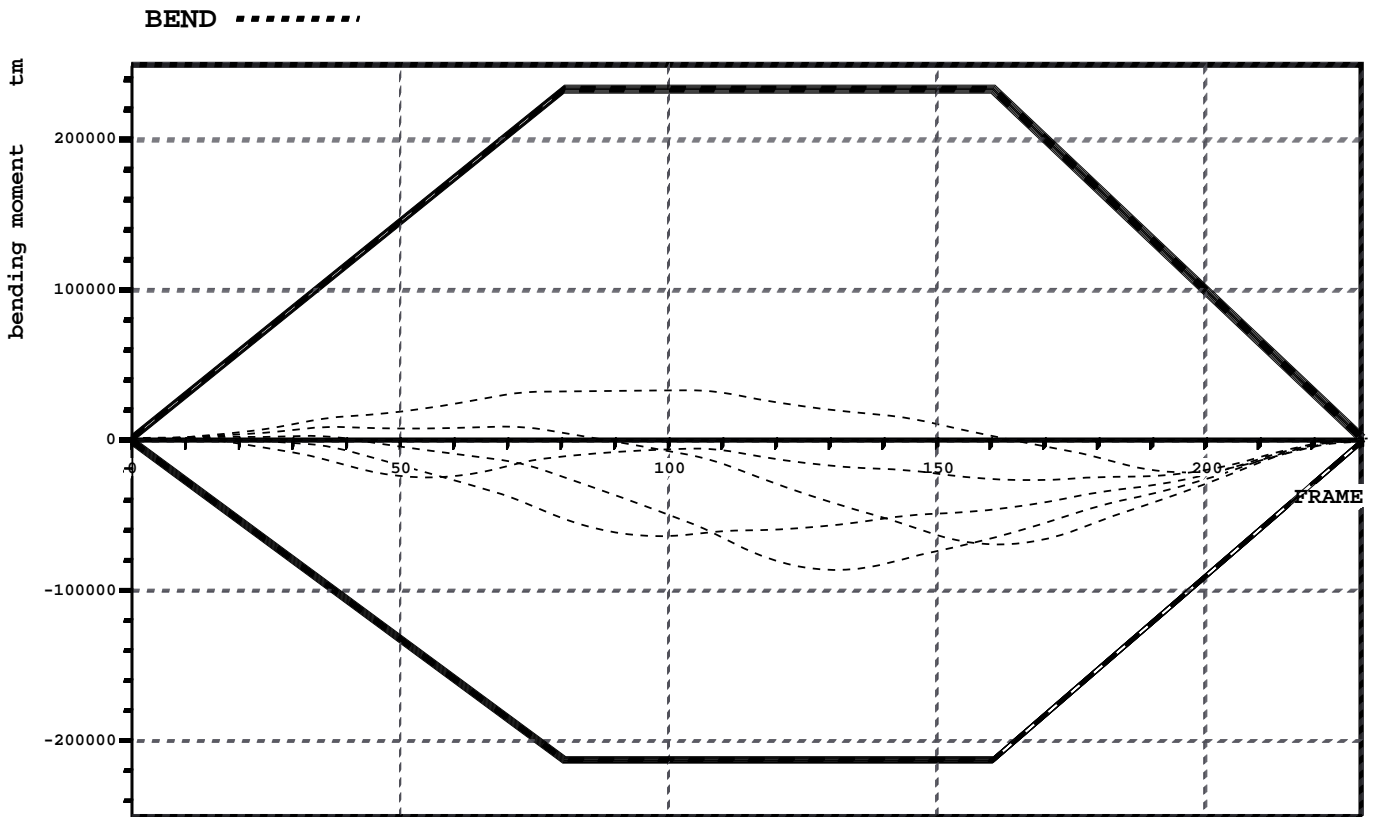
CHECK OF LONGITUDINAL STRENGTH



				X	FRAME
SHEAR FORCE (MIN,CORR)	-1376.8 t	(15.7%)	POSITION:	90.4 m	113
SHEAR FORCE (MAX,CORR)	1345.7 t	(14.7%)		167.2 m	209
SAGGING MOMENT	-33560.4 tm	(23.0%)		130.7 m	163
HOGGING MOMENT	7997.8 tm	(9.8%)		30.0 m	37

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	7628	73770	-8786	246	246	8830
72.50	-137807	6720	156169	-8294	-241	172	8395
72.50	-137811	6719	156173	-8294	-241	-762	8395
108.50	-152905	-8955	173293	-8758	-877	-355	8758
108.50	-152905	-8956	173293	-8758	-877	-1087	8758
144.50	-152905	-28735	173293	-8517	-374	-164	8468
144.50	-152905	-28736	173293	-8517	-374	-568	8467
180.50	-108361	-29544	122770	-8106	311	506	7971
180.50	-108357	-29544	122765	-8106	312	20	7971
219.00	-23246	-4192	26231	-9904	995	995	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1464.2 t (16.5%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	1252.5 t (13.9%)		54.4 m	68
SAGGING MOMENT	-20390.7 tm (20.1%)		157.2 m	197
HOGGING MOMENT	34311.1 tm (14.7%)		83.2 m	104

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1900.0 t (20.4%)	POSITION:	90.4 m	113
SHEAR FORCE (MAX,CORR)	1943.7 t (22.2%)		144.4 m	181
SAGGING MOMENT	-68899.3 tm (32.9%)		129.3 m	162
HOGGING MOMENT	9560.1 tm (4.7%)		55.6 m	69

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2452.0 t (26.3%)	POSITION:	87.8 m	110
SHEAR FORCE (MAX,CORR)	1654.1 t (18.9%)		140.8 m	176
SAGGING MOMENT	-86400.8 tm (40.6%)		104.9 m	131
HOGGING MOMENT	2762.9 tm (2.8%)		26.8 m	34

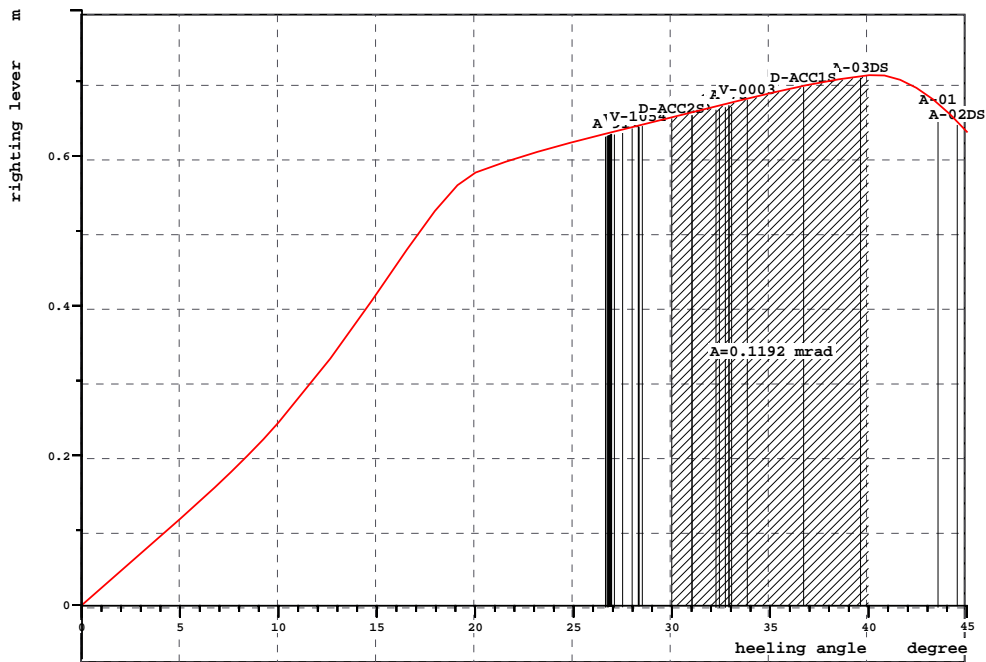
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2366.6 t (26.3%)	POSITION:	58.8 m	74
SHEAR FORCE (MAX,CORR)	1435.9 t (15.0%)		167.2 m	209
SAGGING MOMENT	-64464.7 tm (30.3%)		78.7 m	98
HOGGING MOMENT	1194.5 tm (3.8%)		8.4 m	10

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1207.4 t (13.3%)	POSITION:	32.8 m	41
SHEAR FORCE (MAX,CORR)	1479.6 t (16.5%)		54.4 m	68
SAGGING MOMENT	-27744.2 tm (14.4%)		133.6 m	167
HOGGING MOMENT	513.9 tm (3.0%)		4.5 m	6

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.201	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	0.320	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.119	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	0.708	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	40.223	deg	OK
GM0.15	GM > 0.15 m	0.150	1.298	m	OK
IMOWEATHER	IMO weather criterion	1.000	5.609		OK
GMD	GM > 1.20 m ref. damage stability	1.200	1.298	m	OK

		FUEL TANK OPERATIONS										BALLAST OPERATIONS									
		DO deep tank S	DO serv and sett	FW tanks	HFO 1 P & S	HFO 2 P & S	HFO serv & sett	LO tanks	Misc oil	Misc water	Total tanks	APT	BW No. 5/TECH	BW No. 4	BW No. 3	BW No. 2	BW No. 1	FPT	Total BW tanks		
		ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton	ton		
Dep. condition		138,7	56,4	239,1	723,7	937,9	168,4	113,5	0,0	8,8	2.386,5	WT DB	0	0 0	0 0	0 1.246	0 1.246	700 503	0	3.695	
STEP 1	Change	-30,0	0,0	-61,1	-428,7	0,0	0,0	-42,4	4,1	45,0	-513,1	WT DB	Change								
	Total	108,7	56,4	178,0	295,0	937,9	168,4	71,1	4,1	53,8	1.873,4	WT DB	Total								
STEP 2	Change										0,0	WT DB	Change	658	1.246			-700		1.204	
	Total	22,0	48,0	100,0	0,0	596,4	168,4	51,1	4,1	53,8	1.043,8	WT DB	Total								
STEP 3	Change											WT DB	Change								
	Total											WT DB	Total								
STEP 4	Change											WT DB	Change								
	Total											WT DB	Total								
STEP 5	Change											WT DB	Change								
	Total											WT DB	Total								
STEP 6	Change											WT DB	Change								
	Total											WT DB	Total								
Arr. condition		0,0	25,0	15,0	0,0	20,0	168,4	11,3	8,1	98,9	346,7	WT DB	658	0 0	0 1.246	0 1.246	0 1.246	0 503	0	4.899	
SUMMARY OF BALLASTING OPERATIONS DURING VOYAGE												CONDITION DRAUGHTS AND LONG. STRENGTH									
Name	Class ID		Initial condition:				L*21				d aft (m)		Trim (m)	d fwd (m)		Intact S.F. (%) B.M. (%)		Flooding S.F. (%) B.M. (%)			
			Final condition:				L*22		Dep. condition		12,62	0,55	12,07	15,70	23,00	26,30	40,60				
	Cond. no. L*21		Cond. no. L*22		NOTES: At each step in the ballasting operation the allowable hull girder shear force and bending moment must not be exceeded. For other initial conditions or if another ballasting sequence is chosen, the vessels loadcomputer can be used to simulate the proces to make sure that strength is not exceeded during the operation. Reference: CB40.3580.11/055-01: Preliminary Stability Manual - M/S Bulkcarrier				Step 1		11,79	-0,68	12,47	15,70	27,60	27,00	47,20				
Lightweight	11.044,1	ton	11.044,1	ton					Step 2		12,89	0,77	12,13	20,00	35,60	33,80	55,00				
Cargo	46.256,1	ton	47.331,1	ton					Step 3												
Crew, stores	55	ton	45	ton					Step 4												
Fuel etc	2.387	ton	347	ton					Step 5												
Ballast	3.695	ton	4.899	ton					Step 6												
Displacement	63.437	ton	63.666	ton					Arr. condition		12,44	0,10	12,35	20,30	41,30	34,00	59,00				

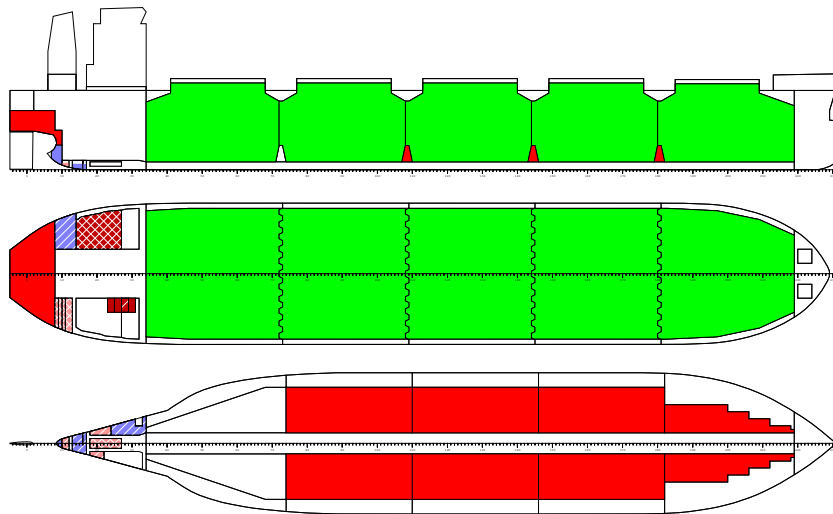
STABILITY AND FLOATING INFORMATION

LOADING CONDITION L-22, TIMBER LOAD - ARR 10 %

FLOATING POSITION / calculation method: free trim

Displacement	63666 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.35 m		
Draught aft (below keel)	12.44 m		
Mean draught (below keel)	12.40 m	Trim	0.10 m
KM above the moulded base	13.69 m		
KG0 (solid)	12.26 m	GM0 (solid)	1.43 m
Free surface correction	0.16 m		-0.16 m
KG (fluid)	12.42 m	GM (fluid)	1.27 m
Actual heel	-0.20 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.54)							
CH1	NO.1 CARGO HOLD	6716.5	100	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	7207.4	100	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	7208.3	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	7207.3	100	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	7166.6	100	43.26	0.00	10.52	0

TOTAL		35506.1		100.38	0.00	10.26	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Deck Cargo 58 cf/lt (RHO=0.856)							
TL1	NO.1 TIMBER LOAD + 10%	2145.0	0	157.60	0.00	22.50	0
TL2	NO.2 TIMBER LOAD + 10%	2420.0	0	130.00	0.00	22.70	0
TL3	NO.3 TIMBER LOAD + 10%	2420.0	0	101.20	0.00	22.70	0
TL4	NO.4 TIMBER LOAD + 10%	2420.0	0	72.40	0.00	22.70	0
TL5	NO.5 TIMBER LOAD + 10%	2420.0	0	43.60	0.00	22.70	0

SUBTOTAL		11825.0		99.64	0.00	22.66	0
CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3
CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0
CONTENTS=Misc Water (RHO=1)							
STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252
CONTENTS=Water Ballast (RHO=1.025)							
FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	8540

SUBTOTAL		4898.9		95.88	0.00	2.59	8540

LIGHT SHIP AND DEAD WEIGHT

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Lightweight	11044.1	84.08	0.00	11.85
Deadweight	52621.7	99.17	-0.01	12.34
Total weight	63665.8	96.55	-0.01	12.26

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.72

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.26 M

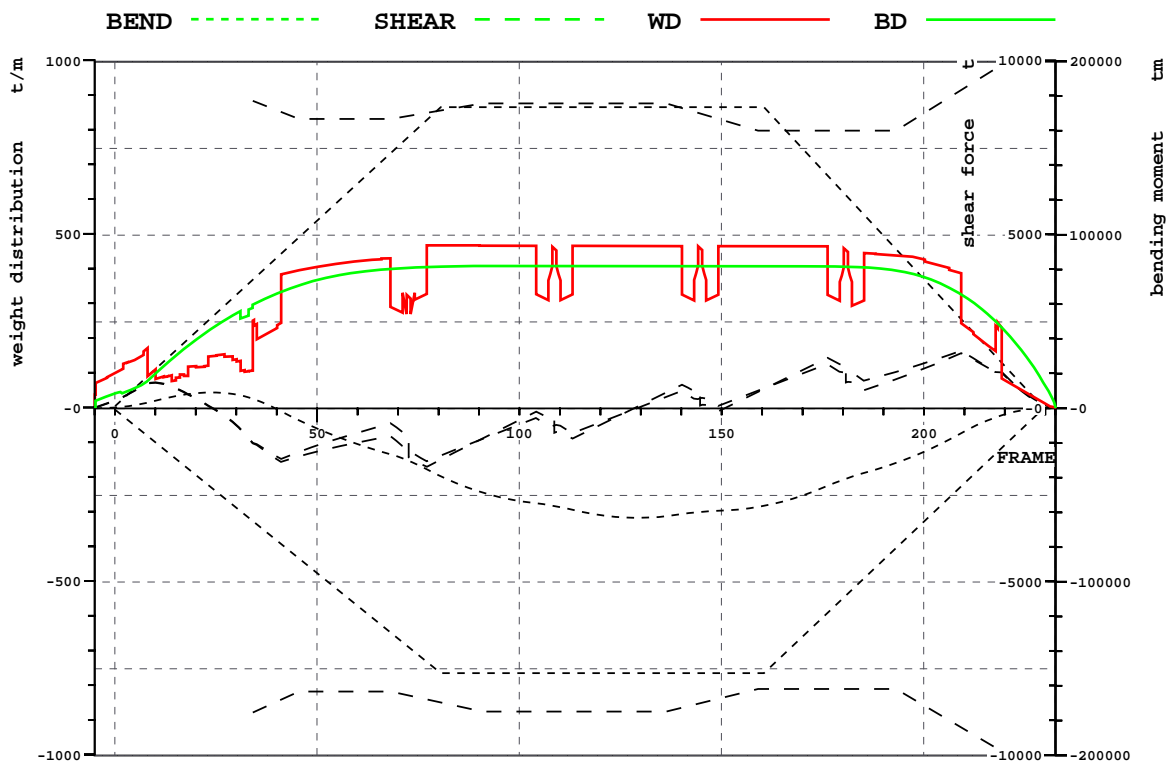
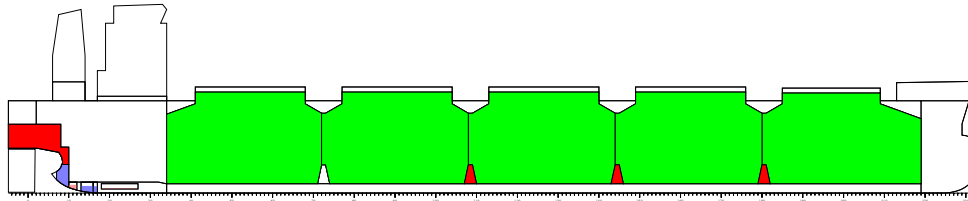
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.45 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.43 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.42 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.40 M

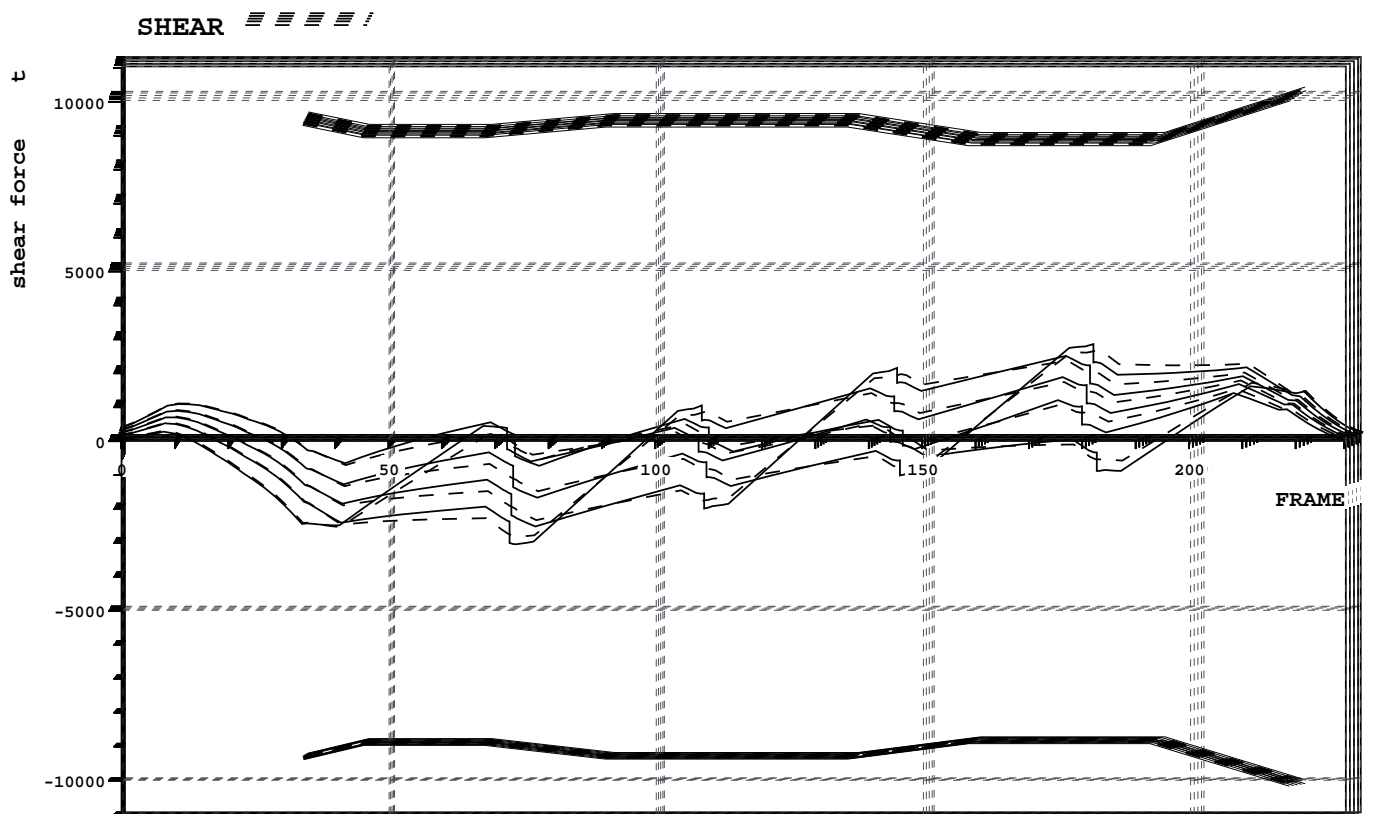
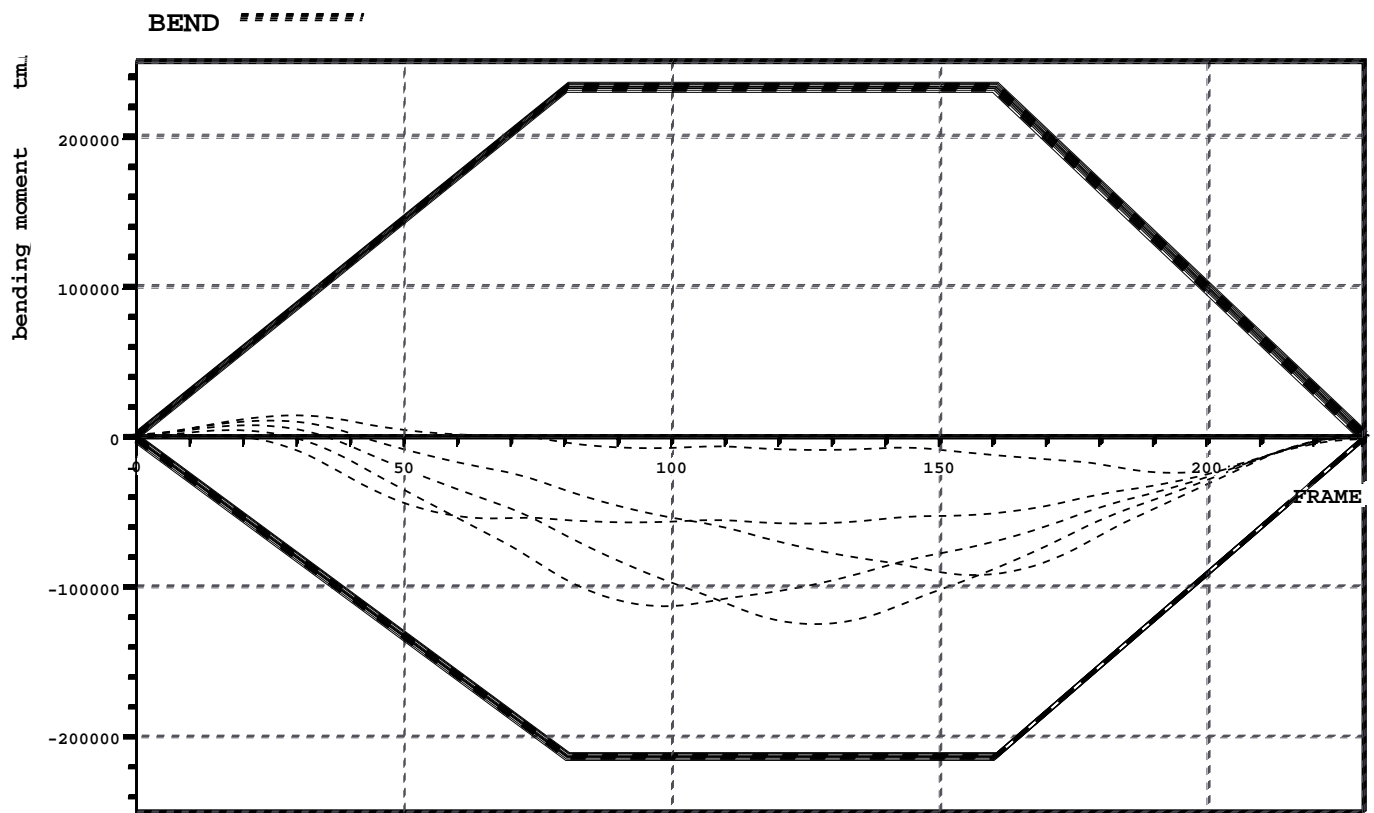
CHECK OF LONGITUDINAL STRENGTH



				X	FRAME
SHEAR FORCE (MIN,CORR)	-1709.8 t	(20.3%)	POSITION:	61.6 m	77
SHEAR FORCE (MAX,CORR)	1564.1 t	(17.1%)		167.2 m	209
SAGGING MOMENT	-63130.7 tm	(41.3%)		103.4 m	129
HOGGING MOMENT	9102.4 tm	(17.4%)		19.2 m	24

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	5544	73770	-8786	-1022	-1022	8830
72.50	-137807	-30107	156169	-8294	-1214	-812	8395
72.50	-137811	-30109	156173	-8294	-1214	-1440	8395
108.50	-152905	-56305	173293	-8758	-511	-285	8758
108.50	-152905	-56305	173293	-8758	-511	-733	8758
144.50	-152905	-59794	173293	-8517	271	493	8468
144.50	-152905	-59794	173293	-8517	271	51	8467
180.50	-108361	-40849	122770	-8106	1040	1260	7971
180.50	-108357	-40848	122765	-8106	1040	717	7971
219.00	-23246	-4205	26231	-9904	1021	1021	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1033.7 t	(11.7%)	POSITION:	144.6 m 181
SHEAR FORCE (MAX,CORR)	1439.1 t	(15.0%)		167.2 m 209
SAGGING MOMENT	-24750.2 tm	(22.2%)		154.6 m 193
HOGGING MOMENT	13617.0 tm	(15.8%)		23.7 m 30

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1771.4 t	(19.5%)	POSITION:	61.6 m 77
SHEAR FORCE (MAX,CORR)	2722.2 t	(31.1%)		144.4 m 181
SAGGING MOMENT	-93287.8 tm	(43.8%)		124.8 m 156
HOGGING MOMENT	9544.3 tm	(13.1%)		19.9 m 25

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2577.7 t	(28.4%)	POSITION:	61.6 m 77
SHEAR FORCE (MAX,CORR)	2429.3 t	(27.7%)		140.8 m 176
SAGGING MOMENT	-125695 tm	(59.0%)		101.2 m 126
HOGGING MOMENT	6835.9 tm	(11.1%)		16.8 m 21

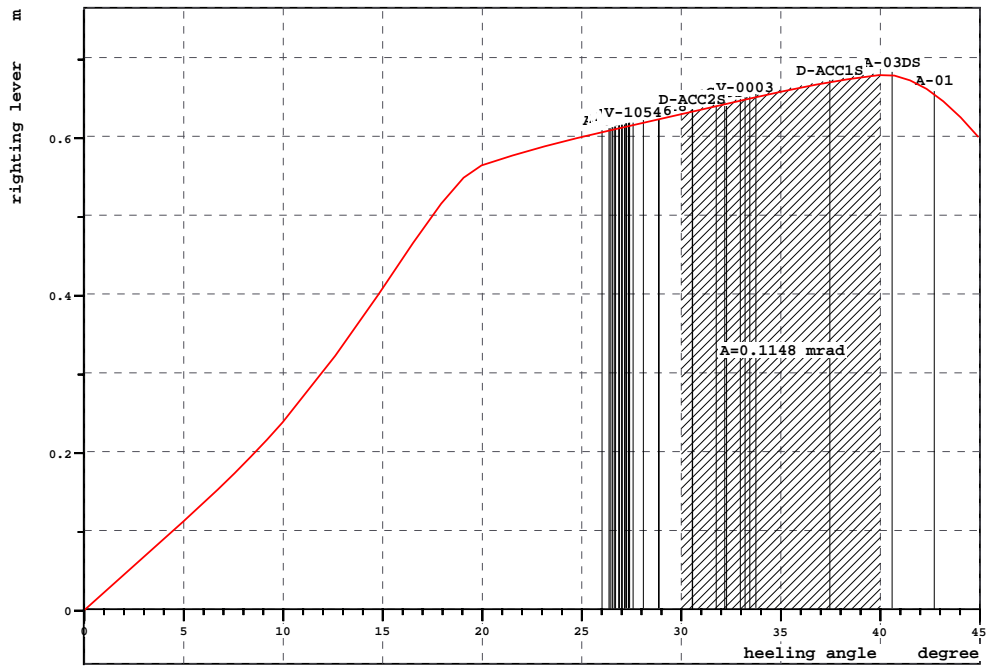
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3060.3 t	(34.0%)	POSITION:	58.8 m 74
SHEAR FORCE (MAX,CORR)	1853.7 t	(21.2%)		140.8 m 176
SAGGING MOMENT	-112735 tm	(52.9%)		79.0 m 99
HOGGING MOMENT	4713.9 tm	(9.2%)		14.0 m 17

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2451.1 t	(26.9%)	POSITION:	32.1 m 40
SHEAR FORCE (MAX,CORR)	1458.1 t	(15.2%)		167.2 m 209
SAGGING MOMENT	-56554.8 tm	(26.6%)		99.7 m 125
HOGGING MOMENT	2592.0 tm	(6.1%)		11.5 m 14

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.196	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	0.311	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.115	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	0.680	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	40.151	deg	OK
GM0.15	GM > 0.15 m	0.150	1.272	m	OK
IMOWEATHER	IMO weather criterion	1.000	5.531		OK
GMD	GM > 1.20 m ref. damage stability	1.200	1.272	m	OK

8 HYDROSTATIC DATA AND PLOT OF THE HULL

This section contains plot of the hull form used in calculation and hydrostatic data covering draught and trim range.

Trim equal to 1 meter forward	1
Trim equal to even keel	4
Trim equal to 1 meter aft	7
Trim equal to 2 meter aft	10
Trim equal to 3 meter aft	13

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NAPA/D/HYD/040506
P40357500/CXS4204
P40357500

MS SPAR LYRA
HYDROSTATIC DATA
TRIM = -1

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MAIN CHARACTERISTICS OF THE VESSEL:

Length betw. perpendiculars	183.25	m
Breadth, moulded	32.26	m
Design draught	12.50	m
X-coord. of after perpendicular	0.00	m
X-coord. of reference point	91.63	m
X-coord. of midship section	91.63	m
X-coord. of building frame 0	0.00	m
Thickness of keelplate	0.022	m
Mean thickness of shell plating	0.016	m
Density of water	1.0250	ton/m3

Calculations are based on STABHULL date 2004-10-15 time 14:36

X-coord. of aft end of DWL	-3.85	m
X-coord. of fore end of DWL	183.25	m

calc. sections 604

EXPLANATION OF SYMBOLS:

T	draught, moulded	m
DISP	total displacement	t
DW	deadweight	t
LCB	longitudinal centre of buoyancy	m
VCB	vertical center of buoyancy	m
LCF	long. centre of flotation	m
KMT	transv. metac. height	m
MCT	moment to change trim	tm/cm
TPC	change of displacement/change of draught	t/cm
CB	block coefficient	
WLA	waterline area	m2
WSA	wetted surface area	m2

Calculated for trim=-1

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
2.50	11451	406	105.67	1.33	101.49	32.72	492.1	47.9	0.750	4675	5161
2.60	11930	886	105.50	1.38	101.42	31.66	496.0	48.1	0.752	4690	5204
2.70	12412	1368	105.34	1.43	101.35	30.68	499.8	48.2	0.753	4704	5247
2.80	12895	1851	105.19	1.48	101.29	29.77	503.4	48.4	0.755	4718	5290
2.90	13379	2335	105.05	1.53	101.23	28.92	507.0	48.5	0.756	4731	5333
3.00	13865	2821	104.92	1.58	101.17	28.13	510.5	48.6	0.758	4745	5376
3.10	14352	3308	104.79	1.63	101.11	27.40	513.8	48.8	0.759	4757	5418
3.20	14840	3796	104.67	1.69	101.05	26.71	517.1	48.9	0.761	4770	5460
3.30	15329	4285	104.55	1.74	100.99	26.06	520.2	49.0	0.762	4782	5502
3.40	15820	4776	104.44	1.79	100.93	25.45	523.3	49.1	0.763	4793	5544
3.50	16312	5268	104.33	1.84	100.87	24.87	526.4	49.2	0.765	4805	5586
3.60	16805	5761	104.23	1.89	100.81	24.33	529.2	49.4	0.766	4815	5628
3.70	17299	6255	104.13	1.94	100.76	23.82	532.0	49.5	0.767	4826	5669
3.80	17794	6750	104.04	2.00	100.71	23.34	534.5	49.6	0.769	4835	5710
3.90	18290	7246	103.95	2.05	100.66	22.88	537.0	49.7	0.770	4845	5751
4.00	18788	7743	103.86	2.10	100.61	22.45	539.4	49.8	0.771	4854	5792
4.10	19285	8241	103.77	2.15	100.56	22.03	541.8	49.8	0.772	4863	5833
4.20	19784	8740	103.69	2.20	100.50	21.64	544.1	49.9	0.774	4871	5874
4.30	20284	9240	103.61	2.25	100.45	21.27	546.3	50.0	0.775	4880	5916
4.40	20785	9741	103.54	2.31	100.39	20.92	548.5	50.1	0.776	4888	5957
4.50	21286	10242	103.46	2.36	100.34	20.59	550.8	50.2	0.777	4896	5998
4.60	21788	10744	103.39	2.41	100.28	20.27	553.0	50.3	0.778	4905	6039
4.70	22292	11247	103.32	2.46	100.22	19.97	555.3	50.4	0.779	4913	6080
4.80	22796	11751	103.25	2.51	100.15	19.68	557.5	50.4	0.780	4921	6121
4.90	23300	12256	103.18	2.56	100.09	19.41	559.8	50.5	0.781	4929	6162
5.00	23806	12762	103.11	2.62	100.02	19.15	562.1	50.6	0.782	4937	6203
5.10	24312	13268	103.05	2.67	99.95	18.90	564.4	50.7	0.783	4945	6244
5.20	24820	13776	102.98	2.72	99.88	18.66	566.7	50.8	0.784	4953	6285
5.30	25327	14283	102.92	2.77	99.80	18.43	568.9	50.8	0.785	4961	6325
5.40	25836	14792	102.86	2.82	99.73	18.21	571.2	50.9	0.786	4969	6366
5.50	26346	15302	102.80	2.87	99.65	18.00	573.6	51.0	0.787	4977	6407
5.60	26856	15812	102.74	2.93	99.56	17.80	575.9	51.1	0.788	4984	6448
5.70	27368	16324	102.68	2.98	99.48	17.61	578.3	51.2	0.789	4992	6489
5.80	27880	16836	102.62	3.03	99.39	17.43	580.7	51.3	0.790	5000	6530
5.90	28393	17349	102.56	3.08	99.30	17.25	583.1	51.3	0.791	5008	6571
6.00	28907	17863	102.50	3.13	99.20	17.08	585.5	51.4	0.792	5016	6612
6.10	29421	18377	102.44	3.18	99.11	16.92	588.0	51.5	0.793	5024	6653
6.20	29937	18893	102.38	3.24	99.01	16.77	590.5	51.6	0.794	5031	6695
6.30	30453	19409	102.33	3.29	98.91	16.62	593.1	51.7	0.795	5039	6736
6.40	30970	19926	102.27	3.34	98.80	16.48	595.6	51.7	0.796	5047	6777
6.50	31488	20443	102.21	3.39	98.69	16.34	598.2	51.8	0.797	5055	6818
6.60	32007	20963	102.15	3.44	98.32	16.26	606.1	52.1	0.798	5081	6877
6.70	32528	21484	102.09	3.50	98.21	16.13	608.7	52.2	0.798	5089	6919
6.80	33050	22006	102.02	3.55	98.09	16.01	611.5	52.2	0.799	5097	6960
6.90	33573	22529	101.96	3.60	97.97	15.89	614.3	52.3	0.800	5106	7002
7.00	34097	23053	101.90	3.65	97.85	15.78	617.2	52.4	0.801	5114	7043
7.10	34622	23578	101.84	3.70	97.72	15.68	620.0	52.5	0.802	5123	7085
7.20	35147	24103	101.78	3.76	97.60	15.58	622.9	52.6	0.803	5131	7127
7.30	35673	24629	101.71	3.81	97.46	15.48	625.8	52.7	0.804	5139	7169
7.40	36201	25157	101.65	3.86	97.33	15.38	628.8	52.8	0.805	5148	7211
7.50	36729	25685	101.59	3.91	97.20	15.29	631.9	52.9	0.806	5157	7253
7.60	37258	26214	101.52	3.96	97.06	15.21	635.0	52.9	0.806	5166	7296
7.70	37788	26744	101.46	4.02	96.92	15.12	638.1	53.0	0.807	5175	7338
7.80	38319	27275	101.40	4.07	96.78	15.05	641.3	53.1	0.808	5183	7380

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
7.90	38851	27806	101.33	4.12	96.63	14.97	644.5	53.2	0.809	5192	7423
8.00	39383	28339	101.27	4.17	96.48	14.90	647.9	53.3	0.810	5202	7466
8.10	39917	28873	101.20	4.22	96.32	14.83	651.2	53.4	0.811	5211	7509
8.20	40451	29407	101.14	4.28	96.16	14.76	654.7	53.5	0.812	5220	7552
8.30	40987	29943	101.07	4.33	95.99	14.69	658.3	53.6	0.812	5230	7596
8.40	41524	30479	101.00	4.38	95.82	14.63	662.0	53.7	0.813	5240	7640
8.50	42061	31017	100.94	4.43	95.65	14.57	665.7	53.8	0.814	5250	7684
8.60	42600	31556	100.87	4.49	95.46	14.52	669.5	53.9	0.815	5260	7728
8.70	43139	32095	100.80	4.54	95.28	14.46	673.3	54.0	0.816	5270	7772
8.80	43680	32636	100.73	4.59	95.10	14.41	677.0	54.1	0.817	5280	7817
8.90	44222	33178	100.66	4.64	94.91	14.36	680.8	54.2	0.818	5289	7861
9.00	44764	33720	100.59	4.69	94.72	14.31	684.5	54.3	0.818	5299	7906
9.10	45308	34264	100.52	4.75	94.54	14.27	688.2	54.4	0.819	5309	7951
9.20	45852	34808	100.45	4.80	94.41	14.22	690.3	54.5	0.820	5315	7998
9.30	46398	35354	100.37	4.85	93.90	14.18	702.8	54.8	0.821	5343	8061
9.40	46946	35902	100.29	4.91	93.71	14.14	706.5	54.9	0.822	5352	8105
9.50	47496	36452	100.22	4.96	93.52	14.11	710.2	55.0	0.823	5362	8149
9.60	48046	37002	100.14	5.01	93.33	14.07	713.7	55.1	0.824	5371	8194
9.70	48597	37553	100.06	5.06	93.15	14.04	717.1	55.1	0.825	5379	8238
9.80	49149	38104	99.98	5.12	92.96	14.01	720.3	55.2	0.825	5388	8282
9.90	49701	38657	99.90	5.17	92.78	13.97	723.3	55.3	0.826	5395	8326
10.00	50255	39211	99.82	5.22	92.60	13.95	726.1	55.4	0.827	5403	8370
10.10	50809	39765	99.74	5.27	92.42	13.92	728.9	55.5	0.828	5410	8414
10.20	51364	40320	99.66	5.33	92.23	13.89	731.5	55.5	0.829	5417	8457
10.30	51919	40875	99.58	5.38	92.05	13.87	734.0	55.6	0.830	5424	8501
10.40	52475	41431	99.50	5.43	91.87	13.84	736.3	55.7	0.830	5430	8545
10.50	53032	41988	99.42	5.48	91.69	13.82	738.4	55.7	0.831	5436	8589
10.60	53590	42546	99.34	5.54	91.51	13.80	740.3	55.8	0.832	5441	8633
10.70	54148	43104	99.26	5.59	91.32	13.78	741.9	55.8	0.833	5445	8677
10.80	54706	43662	99.18	5.64	91.12	13.76	743.2	55.9	0.834	5449	8722
10.90	55265	44221	99.09	5.70	90.95	13.74	744.8	55.9	0.835	5454	8766
11.00	55824	44780	99.01	5.75	90.83	13.73	747.8	56.0	0.835	5462	8808
11.10	56384	45340	98.93	5.80	90.71	13.72	750.8	56.1	0.836	5469	8849
11.20	56945	45901	98.85	5.85	90.59	13.70	753.7	56.1	0.837	5477	8890
11.30	57507	46463	98.77	5.91	90.48	13.69	756.6	56.2	0.838	5484	8931
11.40	58070	47026	98.69	5.96	90.37	13.68	759.4	56.3	0.839	5492	8972
11.50	58633	47589	98.61	6.01	90.27	13.68	762.2	56.4	0.839	5499	9013
11.60	59197	48153	98.53	6.06	90.16	13.67	764.9	56.4	0.840	5506	9054
11.70	59762	48717	98.45	6.12	90.06	13.66	767.5	56.5	0.841	5512	9095
11.80	60327	49283	98.37	6.17	89.96	13.66	770.1	56.6	0.842	5519	9135
11.90	60893	49849	98.29	6.22	89.86	13.65	772.6	56.6	0.842	5526	9176
12.00	61460	50415	98.21	6.27	89.77	13.65	775.1	56.7	0.843	5532	9216
12.10	62027	50983	98.13	6.33	89.67	13.64	777.5	56.8	0.844	5538	9257
12.20	62595	51551	98.06	6.38	89.58	13.64	779.9	56.8	0.845	5544	9297
12.30	63163	52119	97.98	6.43	89.49	13.64	782.1	56.9	0.845	5550	9337
12.40	63732	52688	97.90	6.49	89.41	13.64	784.3	56.9	0.846	5556	9377
12.50	64302	53258	97.83	6.54	89.32	13.64	786.5	57.0	0.847	5561	9417
12.60	64872	53828	97.75	6.59	89.24	13.64	788.6	57.1	0.848	5567	9457
12.70	65443	54399	97.68	6.64	89.16	13.64	790.7	57.1	0.848	5572	9496
12.80	66015	54971	97.60	6.70	89.08	13.65	792.7	57.2	0.849	5577	9536
12.90	66587	55543	97.53	6.75	89.01	13.65	794.7	57.2	0.850	5582	9576
13.00	67159	56115	97.46	6.80	88.93	13.65	796.6	57.3	0.851	5587	9615
13.10	67732	56688	97.39	6.85	88.86	13.66	798.5	57.3	0.851	5592	9655
13.20	68306	57261	97.31	6.91	88.81	13.66	800.9	57.4	0.852	5598	9694

Carl Bro a/s - DMC
NAPA/D/HYD/040506
P40357500/CXS4204
P40357500

MS SPAR LYRA
HYDROSTATIC DATA
TRIM = 0

DATE 2006-03-28
TIME 08:33
USER JAN
Page 8-4

MAIN CHARACTERISTICS OF THE VESSEL:

Length betw. perpendiculars	183.25	m
Breadth, moulded	32.26	m
Design draught	12.50	m
X-coord. of after perpendicular	0.00	m
X-coord. of reference point	91.63	m
X-coord. of midship section	91.63	m
X-coord. of building frame 0	0.00	m
Thickness of keelplate	0.022	m
Mean thickness of shell plating	0.016	m
Density of water	1.0250	ton/m3

Calculations are based on STABHULL date 2004-10-15 time 14:36

X-coord. of aft end of DWL	-3.85	m
X-coord. of fore end of DWL	183.25	m

calc. sections 604

EXPLANATION OF SYMBOLS:

T	draught, moulded	m
DISP	total displacement	t
DW	deadweight	t
LCB	longitudinal centre of buoyancy	m
VCB	vertical center of buoyancy	m
LCF	long. centre of flotation	m
KMT	transv. metac. height	m
MCT	moment to change trim	tm/cm
TPC	change of displacement/change of draught	t/cm
CB	block coefficient	
WLA	waterline area	m2
WSA	wetted surface area	m2

Carl Bro a/s - DMC
 NAPA/D/HYD/040506
 P40357500/CXS4204
 P40357500

MS SPAR LYRA
 HYDROSTATIC DATA
 TRIM = 0

DATE 2006-03-28
 TIME 08:33
 USER JAN
 Page 8-5

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
2.50	11203	159	101.38	1.29	100.70	33.47	493.3	48.0	0.734	4681	5164
2.60	11683	639	101.35	1.34	100.66	32.35	497.1	48.1	0.736	4696	5207
2.70	12165	1121	101.32	1.39	100.62	31.32	500.8	48.3	0.738	4710	5250
2.80	12649	1605	101.29	1.44	100.57	30.36	504.4	48.4	0.740	4724	5293
2.90	13134	2090	101.26	1.49	100.53	29.48	508.0	48.6	0.742	4738	5336
3.00	13620	2576	101.24	1.55	100.49	28.65	511.6	48.7	0.744	4751	5379
3.10	14108	3064	101.21	1.60	100.45	27.88	514.9	48.8	0.746	4764	5422
3.20	14597	3553	101.18	1.65	100.41	27.16	518.2	49.0	0.748	4776	5464
3.30	15087	4043	101.16	1.70	100.37	26.49	521.4	49.1	0.750	4788	5507
3.40	15578	4534	101.13	1.75	100.35	25.86	524.4	49.2	0.752	4800	5549
3.50	16071	5027	101.11	1.81	100.32	25.26	527.2	49.3	0.753	4811	5591
3.60	16565	5521	101.08	1.86	100.28	24.70	530.0	49.4	0.755	4821	5632
3.70	17059	6015	101.06	1.91	100.25	24.17	532.8	49.5	0.757	4832	5674
3.80	17555	6511	101.04	1.96	100.21	23.67	535.4	49.6	0.758	4842	5716
3.90	18052	7008	101.01	2.01	100.18	23.20	538.1	49.7	0.760	4852	5757
4.00	18550	7506	100.99	2.07	100.14	22.75	540.7	49.8	0.761	4861	5799
4.10	19048	8004	100.97	2.12	100.09	22.33	543.2	49.9	0.763	4871	5840
4.20	19548	8504	100.95	2.17	100.05	21.93	545.8	50.0	0.764	4880	5882
4.30	20049	9005	100.92	2.22	100.00	21.55	548.4	50.1	0.766	4890	5923
4.40	20551	9506	100.90	2.27	99.95	21.19	551.0	50.2	0.767	4899	5965
4.50	21053	10009	100.88	2.33	99.89	20.84	553.5	50.3	0.768	4908	6006
4.60	21557	10513	100.85	2.38	99.83	20.52	556.0	50.4	0.770	4917	6047
4.70	22061	11017	100.83	2.43	99.77	20.20	558.5	50.5	0.771	4926	6088
4.80	22566	11522	100.80	2.48	99.71	19.91	561.0	50.6	0.772	4934	6130
4.90	23072	12028	100.78	2.53	99.64	19.63	563.6	50.7	0.774	4943	6171
5.00	23579	12535	100.76	2.59	99.58	19.36	566.2	50.8	0.775	4952	6212
5.10	24087	13043	100.73	2.64	99.50	19.10	568.8	50.8	0.776	4961	6253
5.20	24596	13552	100.70	2.69	99.43	18.85	571.4	50.9	0.777	4969	6294
5.30	25106	14062	100.68	2.74	99.35	18.62	574.0	51.0	0.779	4978	6335
5.40	25617	14573	100.65	2.79	99.27	18.40	576.7	51.1	0.780	4987	6377
5.50	26129	15085	100.62	2.85	99.19	18.18	579.4	51.2	0.781	4996	6418
5.60	26641	15597	100.59	2.90	99.11	17.98	582.1	51.3	0.782	5004	6459
5.70	27155	16111	100.56	2.95	99.02	17.78	584.8	51.4	0.783	5013	6500
5.80	27669	16625	100.53	3.00	98.92	17.59	587.6	51.5	0.784	5022	6542
5.90	28184	17140	100.50	3.05	98.83	17.41	590.4	51.6	0.785	5030	6583
6.00	28700	17656	100.47	3.11	98.73	17.24	593.2	51.7	0.786	5039	6624
6.10	29217	18173	100.44	3.16	98.63	17.08	596.0	51.7	0.788	5048	6666
6.20	29735	18691	100.41	3.21	98.27	16.97	604.2	52.0	0.789	5074	6725
6.30	30256	19212	100.37	3.26	98.16	16.82	607.1	52.1	0.790	5083	6767
6.40	30778	19733	100.33	3.31	98.05	16.67	610.1	52.2	0.791	5092	6808
6.50	31300	20256	100.29	3.37	97.93	16.53	613.1	52.3	0.792	5101	6850
6.60	31823	20779	100.25	3.42	97.82	16.40	616.1	52.4	0.793	5110	6892
6.70	32348	21303	100.21	3.47	97.70	16.27	619.2	52.5	0.794	5119	6934
6.80	32873	21829	100.17	3.52	97.57	16.14	622.3	52.6	0.795	5128	6976
6.90	33399	22355	100.13	3.58	97.44	16.03	625.5	52.7	0.796	5138	7018
7.00	33926	22882	100.09	3.63	97.31	15.91	628.6	52.8	0.797	5147	7060
7.10	34454	23410	100.04	3.68	97.18	15.80	631.9	52.8	0.798	5156	7102
7.20	34983	23939	100.00	3.73	97.04	15.70	635.2	52.9	0.799	5165	7145
7.30	35513	24469	99.95	3.79	96.91	15.60	638.5	53.0	0.800	5175	7187
7.40	36044	25000	99.91	3.84	96.77	15.50	642.0	53.1	0.801	5184	7230
7.50	36576	25532	99.86	3.89	96.62	15.41	645.5	53.2	0.802	5194	7273
7.60	37109	26065	99.81	3.94	96.47	15.32	649.0	53.3	0.803	5204	7316
7.70	37642	26598	99.76	4.00	96.32	15.23	652.7	53.4	0.804	5214	7359
7.80	38177	27133	99.71	4.05	96.16	15.15	656.5	53.5	0.805	5224	7403
7.90	38713	27669	99.66	4.10	95.99	15.07	660.4	53.7	0.806	5235	7447

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
8.00	39251	28206	99.61	4.15	95.83	15.00	664.4	53.8	0.807	5245	7491
8.10	39789	28745	99.56	4.21	95.65	14.93	668.5	53.9	0.808	5256	7535
8.20	40328	29284	99.51	4.26	95.48	14.86	672.7	54.0	0.809	5267	7579
8.30	40869	29824	99.45	4.31	95.30	14.79	676.8	54.1	0.810	5278	7624
8.40	41410	30366	99.40	4.37	95.13	14.73	680.9	54.2	0.811	5288	7669
8.50	41953	30909	99.34	4.42	94.95	14.67	685.0	54.3	0.812	5299	7713
8.60	42496	31452	99.28	4.47	94.77	14.61	689.2	54.4	0.813	5310	7758
8.70	43041	31997	99.23	4.52	94.65	14.55	691.6	54.5	0.814	5317	7805
8.80	43587	32543	99.17	4.58	94.14	14.50	704.8	54.8	0.815	5346	7868
8.90	44136	33092	99.10	4.63	93.96	14.45	708.9	54.9	0.816	5357	7912
9.00	44685	33641	99.04	4.68	93.78	14.40	712.9	55.0	0.817	5367	7956
9.10	45236	34192	98.97	4.74	93.60	14.35	716.8	55.1	0.818	5377	8000
9.20	45788	34743	98.91	4.79	93.42	14.31	720.5	55.2	0.819	5386	8044
9.30	46340	35296	98.84	4.84	93.25	14.27	724.2	55.3	0.820	5395	8088
9.40	46894	35849	98.77	4.90	93.08	14.23	727.7	55.4	0.821	5404	8132
9.50	47448	36404	98.71	4.95	92.91	14.19	731.0	55.5	0.822	5413	8175
9.60	48003	36959	98.64	5.00	92.74	14.15	734.4	55.6	0.823	5422	8219
9.70	48559	37515	98.57	5.06	92.58	14.12	737.6	55.7	0.824	5430	8262
9.80	49116	38072	98.50	5.11	92.41	14.08	740.6	55.7	0.825	5438	8305
9.90	49674	38630	98.43	5.16	92.25	14.05	743.6	55.8	0.826	5445	8348
10.00	50232	39188	98.36	5.22	92.09	14.02	746.5	55.9	0.827	5453	8391
10.10	50792	39748	98.29	5.27	91.94	13.99	749.3	56.0	0.828	5460	8434
10.20	51352	40308	98.22	5.32	91.78	13.96	751.9	56.0	0.829	5467	8477
10.30	51913	40868	98.15	5.37	91.63	13.94	754.4	56.1	0.830	5473	8520
10.40	52474	41430	98.08	5.43	91.47	13.91	756.8	56.2	0.830	5480	8563
10.50	53036	41992	98.01	5.48	91.31	13.89	758.9	56.2	0.831	5485	8605
10.60	53599	42554	97.94	5.53	91.16	13.87	761.0	56.3	0.832	5491	8648
10.70	54162	43118	97.87	5.59	91.01	13.85	763.0	56.3	0.833	5496	8691
10.80	54725	43681	97.80	5.64	90.85	13.83	764.8	56.4	0.834	5501	8733
10.90	55289	44245	97.72	5.69	90.70	13.81	766.4	56.4	0.835	5506	8776
11.00	55854	44810	97.65	5.75	90.54	13.79	767.9	56.5	0.836	5510	8819
11.10	56419	45375	97.58	5.80	90.38	13.77	769.1	56.5	0.837	5514	8862
11.20	56984	45940	97.51	5.85	90.21	13.76	770.1	56.5	0.838	5517	8905
11.30	57550	46506	97.44	5.91	90.04	13.75	770.7	56.6	0.838	5519	8949
11.40	58116	47072	97.36	5.96	89.89	13.74	771.9	56.6	0.839	5523	8992
11.50	58682	47638	97.29	6.01	89.80	13.73	774.4	56.7	0.840	5529	9032
11.60	59249	48205	97.22	6.07	89.70	13.72	776.8	56.7	0.841	5536	9073
11.70	59817	48773	97.15	6.12	89.61	13.71	779.2	56.8	0.842	5542	9113
11.80	60385	49341	97.07	6.17	89.52	13.70	781.5	56.9	0.842	5548	9153
11.90	60954	49910	97.00	6.22	89.44	13.70	783.7	56.9	0.843	5554	9193
12.00	61524	50480	96.93	6.28	89.35	13.69	785.9	57.0	0.844	5559	9233
12.10	62094	51050	96.86	6.33	89.27	13.69	788.1	57.0	0.845	5565	9273
12.20	62665	51620	96.79	6.38	89.19	13.69	790.2	57.1	0.846	5570	9313
12.30	63236	52192	96.72	6.44	89.11	13.68	792.2	57.1	0.846	5576	9353
12.40	63808	52763	96.66	6.49	89.03	13.68	794.2	57.2	0.847	5581	9392
12.50	64380	53336	96.59	6.54	88.96	13.68	796.1	57.3	0.848	5586	9432
12.60	64953	53909	96.52	6.60	88.89	13.68	798.0	57.3	0.849	5591	9471
12.70	65526	54482	96.45	6.65	88.81	13.68	799.9	57.4	0.849	5596	9511
12.80	66100	55056	96.39	6.70	88.75	13.69	801.7	57.4	0.850	5600	9550
12.90	66674	55630	96.32	6.75	88.67	13.69	803.4	57.4	0.851	5605	9589
13.00	67249	56204	96.25	6.81	88.61	13.69	805.1	57.5	0.852	5609	9628
13.10	67824	56780	96.19	6.86	88.54	13.70	806.8	57.5	0.852	5614	9667
13.20	68399	57355	96.13	6.91	88.48	13.70	808.5	57.6	0.853	5618	9707

Carl Bro a/s - DMC
NAPA/D/HYD/040506
P40357500/CXS4204
P40357500

MS SPAR LYRA
HYDROSTATIC DATA
TRIM = 1

DATE 2006-03-28
TIME 08:33
USER JAN
Page 8-7

MAIN CHARACTERISTICS OF THE VESSEL:

Length betw. perpendiculars	183.25	m
Breadth, moulded	32.26	m
Design draught	12.50	m
X-coord. of after perpendicular	0.00	m
X-coord. of reference point	91.63	m
X-coord. of midship section	91.63	m
X-coord. of building frame 0	0.00	m
Thickness of keelplate	0.022	m
Mean thickness of shell plating	0.016	m
Density of water	1.0250	ton/m3

Calculations are based on STABHULL date 2004-10-15 time 14:36

X-coord. of aft end of DWL	-3.85	m
X-coord. of fore end of DWL	183.25	m

calc. sections 604

EXPLANATION OF SYMBOLS:

T	draught, moulded	m
DISP	total displacement	t
DW	deadweight	t
LCB	longitudinal centre of buoyancy	m
VCB	vertical center of buoyancy	m
LCF	long. centre of flotation	m
KMT	transv. metac. height	m
MCT	moment to change trim	tm/cm
TPC	change of displacement/change of draught	t/cm
CB	block coefficient	
WLA	waterline area	m2
WSA	wetted surface area	m2

Calculated for trim=1

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
2.50	10976	-68	96.91	1.27	99.88	34.17	492.1	48.0	0.719	4681	5163
2.60	11456	412	97.03	1.33	99.87	33.00	496.1	48.1	0.722	4696	5208
2.70	11939	894	97.15	1.38	99.85	31.93	500.0	48.3	0.724	4711	5251
2.80	12422	1378	97.25	1.43	99.83	30.94	503.8	48.4	0.727	4725	5295
2.90	12907	1863	97.35	1.48	99.82	30.02	507.5	48.6	0.730	4740	5338
3.00	13394	2350	97.44	1.53	99.81	29.16	510.9	48.7	0.732	4753	5381
3.10	13881	2837	97.52	1.58	99.80	28.36	514.1	48.8	0.734	4765	5424
3.20	14371	3326	97.60	1.64	99.78	27.61	517.2	49.0	0.737	4777	5466
3.30	14861	3817	97.67	1.69	99.77	26.91	520.4	49.1	0.739	4789	5509
3.40	15352	4308	97.74	1.74	99.75	26.25	523.5	49.2	0.741	4801	5551
3.50	15845	4801	97.80	1.79	99.74	25.64	526.4	49.3	0.743	4812	5594
3.60	16339	5295	97.86	1.84	99.71	25.06	529.4	49.4	0.745	4823	5636
3.70	16834	5790	97.91	1.90	99.69	24.52	532.4	49.6	0.747	4834	5678
3.80	17330	6286	97.96	1.95	99.66	24.00	535.5	49.7	0.749	4846	5720
3.90	17827	6783	98.01	2.00	99.63	23.52	538.5	49.8	0.750	4857	5763
4.00	18325	7281	98.05	2.05	99.60	23.06	541.5	49.9	0.752	4867	5804
4.10	18825	7781	98.09	2.10	99.56	22.63	544.4	50.0	0.754	4878	5846
4.20	19325	8281	98.13	2.15	99.52	22.21	547.3	50.1	0.756	4888	5888
4.30	19827	8783	98.16	2.21	99.47	21.82	550.2	50.2	0.757	4898	5930
4.40	20329	9285	98.20	2.26	99.43	21.45	553.2	50.3	0.759	4909	5972
4.50	20832	9788	98.23	2.31	99.38	21.10	556.1	50.4	0.760	4919	6013
4.60	21337	10293	98.25	2.36	99.32	20.77	559.0	50.5	0.762	4928	6055
4.70	21843	10799	98.28	2.41	99.26	20.45	561.9	50.6	0.763	4938	6096
4.80	22349	11305	98.30	2.47	99.20	20.14	564.8	50.7	0.765	4948	6138
4.90	22857	11813	98.32	2.52	99.13	19.85	567.8	50.8	0.766	4958	6180
5.00	23366	12322	98.33	2.57	99.06	19.57	570.7	50.9	0.768	4967	6221
5.10	23876	12832	98.35	2.62	98.99	19.31	573.6	51.0	0.769	4977	6263
5.20	24387	13342	98.36	2.67	98.91	19.06	576.7	51.1	0.771	4987	6304
5.30	24898	13854	98.37	2.73	98.83	18.82	579.7	51.2	0.772	4996	6346
5.40	25411	14367	98.38	2.78	98.75	18.59	582.8	51.3	0.773	5006	6388
5.50	25924	14880	98.39	2.83	98.66	18.37	585.8	51.4	0.775	5016	6429
5.60	26439	15395	98.39	2.88	98.57	18.16	588.9	51.5	0.776	5025	6471
5.70	26954	15910	98.39	2.94	98.48	17.96	592.0	51.6	0.777	5035	6513
5.80	27471	16427	98.39	2.99	98.38	17.77	595.1	51.7	0.779	5044	6554
5.90	27990	16946	98.39	3.04	98.03	17.64	603.6	52.0	0.780	5072	6614
6.00	28510	17466	98.38	3.09	97.93	17.46	606.9	52.1	0.781	5082	6656
6.10	29032	17988	98.37	3.15	97.82	17.29	610.2	52.2	0.782	5092	6698
6.20	29554	18510	98.36	3.20	97.71	17.13	613.5	52.3	0.784	5102	6740
6.30	30078	19033	98.35	3.25	97.59	16.98	616.8	52.4	0.785	5112	6782
6.40	30602	19558	98.34	3.30	97.48	16.83	620.2	52.5	0.786	5121	6824
6.50	31127	20083	98.32	3.36	97.36	16.68	623.6	52.6	0.787	5131	6866
6.60	31654	20610	98.30	3.41	97.23	16.55	627.2	52.7	0.789	5142	6909
6.70	32182	21137	98.28	3.46	97.11	16.41	630.7	52.8	0.790	5152	6951
6.80	32710	21666	98.26	3.51	96.98	16.29	634.2	52.9	0.791	5162	6994
6.90	33240	22196	98.24	3.57	96.84	16.17	637.8	53.0	0.792	5172	7037
7.00	33770	22726	98.22	3.62	96.70	16.05	641.5	53.1	0.793	5182	7080
7.10	34302	23258	98.19	3.67	96.56	15.94	645.3	53.2	0.795	5193	7123
7.20	34835	23791	98.17	3.72	96.41	15.83	649.1	53.3	0.796	5203	7166
7.30	35369	24325	98.14	3.78	96.26	15.73	653.1	53.4	0.797	5214	7210
7.40	35904	24859	98.11	3.83	96.10	15.63	657.1	53.6	0.798	5225	7254
7.50	36440	25396	98.08	3.88	95.93	15.53	661.3	53.7	0.799	5236	7298
7.60	36977	25933	98.05	3.94	95.77	15.44	665.5	53.8	0.800	5247	7342
7.70	37515	26471	98.01	3.99	95.59	15.35	669.9	53.9	0.801	5259	7387
7.80	38055	27011	97.98	4.04	95.42	15.27	674.3	54.0	0.803	5270	7431

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
7.90	38596	27552	97.94	4.09	95.25	15.19	678.8	54.1	0.804	5282	7476
8.00	39138	28094	97.90	4.15	95.08	15.11	683.2	54.3	0.805	5293	7521
8.10	39681	28637	97.86	4.20	94.90	15.03	687.4	54.4	0.806	5304	7566
8.20	40225	29181	97.82	4.25	94.79	14.96	690.1	54.4	0.807	5312	7613
8.30	40771	29726	97.78	4.31	94.27	14.90	703.8	54.8	0.808	5342	7676
8.40	41319	30275	97.73	4.36	94.10	14.83	708.3	54.9	0.809	5354	7720
8.50	41868	30824	97.68	4.41	93.93	14.77	712.6	55.0	0.810	5365	7765
8.60	42419	31374	97.63	4.47	93.76	14.71	716.9	55.1	0.812	5375	7809
8.70	42970	31926	97.58	4.52	93.59	14.65	721.0	55.2	0.813	5386	7853
8.80	43523	32479	97.53	4.58	93.42	14.60	725.0	55.3	0.814	5396	7897
8.90	44076	33032	97.48	4.63	93.26	14.55	728.8	55.4	0.815	5406	7940
9.00	44631	33587	97.42	4.68	93.10	14.50	732.6	55.5	0.816	5416	7984
9.10	45186	34142	97.37	4.74	92.94	14.45	736.4	55.6	0.817	5425	8027
9.20	45743	34699	97.32	4.79	92.79	14.40	740.0	55.7	0.818	5434	8070
9.30	46300	35256	97.26	4.84	92.63	14.36	743.4	55.8	0.819	5443	8113
9.40	46859	35815	97.20	4.90	92.48	14.32	746.8	55.9	0.820	5452	8156
9.50	47418	36374	97.15	4.95	92.33	14.28	750.0	56.0	0.821	5460	8199
9.60	47978	36934	97.09	5.00	92.18	14.24	753.1	56.0	0.822	5468	8242
9.70	48539	37495	97.03	5.06	92.04	14.20	756.2	56.1	0.824	5476	8284
9.80	49100	38056	96.98	5.11	91.89	14.16	759.1	56.2	0.825	5483	8327
9.90	49663	38619	96.92	5.17	91.75	14.13	761.9	56.3	0.826	5490	8369
10.00	50226	39182	96.86	5.22	91.61	14.10	764.6	56.3	0.827	5497	8412
10.10	50790	39745	96.80	5.27	91.47	14.07	767.2	56.4	0.828	5504	8454
10.20	51354	40310	96.74	5.33	91.33	14.04	769.8	56.5	0.829	5511	8496
10.30	51919	40875	96.68	5.38	91.19	14.01	772.2	56.5	0.830	5517	8538
10.40	52485	41441	96.62	5.43	91.06	13.99	774.5	56.6	0.831	5523	8580
10.50	53051	42007	96.56	5.49	90.93	13.96	776.7	56.7	0.832	5529	8622
10.60	53618	42574	96.50	5.54	90.79	13.94	778.9	56.7	0.833	5534	8664
10.70	54186	43142	96.44	5.59	90.66	13.92	780.9	56.8	0.834	5540	8705
10.80	54754	43710	96.38	5.65	90.53	13.90	782.8	56.8	0.834	5545	8747
10.90	55323	44279	96.32	5.70	90.40	13.88	784.5	56.9	0.835	5550	8789
11.00	55892	44848	96.26	5.75	90.27	13.86	786.0	56.9	0.836	5554	8831
11.10	56461	45417	96.20	5.81	90.14	13.84	787.5	57.0	0.837	5558	8872
11.20	57031	45987	96.13	5.86	90.00	13.83	788.8	57.0	0.838	5562	8914
11.30	57601	46557	96.07	5.91	89.87	13.81	790.0	57.0	0.839	5565	8956
11.40	58172	47128	96.01	5.97	89.74	13.80	791.1	57.1	0.840	5568	8998
11.50	58743	47699	95.95	6.02	89.61	13.79	791.9	57.1	0.841	5571	9039
11.60	59314	48270	95.89	6.08	89.47	13.78	792.5	57.1	0.842	5573	9081
11.70	59885	48841	95.83	6.13	89.33	13.77	792.9	57.1	0.843	5575	9124
11.80	60457	49413	95.76	6.18	89.18	13.76	792.9	57.2	0.843	5576	9167
11.90	61029	49984	95.70	6.23	89.06	13.75	793.7	57.2	0.844	5579	9208
12.00	61601	50556	95.64	6.29	88.98	13.74	795.7	57.2	0.845	5584	9248
12.10	62173	51129	95.58	6.34	88.91	13.74	797.6	57.3	0.846	5589	9287
12.20	62746	51702	95.52	6.39	88.84	13.74	799.4	57.3	0.847	5594	9327
12.30	63320	52276	95.46	6.45	88.77	13.73	801.2	57.4	0.848	5599	9366
12.40	63894	52850	95.40	6.50	88.70	13.73	803.0	57.4	0.848	5603	9406
12.50	64469	53424	95.34	6.55	88.63	13.73	804.8	57.5	0.849	5608	9445
12.60	65044	54000	95.28	6.61	88.57	13.73	806.5	57.5	0.850	5612	9484
12.70	65619	54575	95.22	6.66	88.50	13.73	808.1	57.6	0.851	5617	9523
12.80	66195	55151	95.16	6.71	88.44	13.73	809.8	57.6	0.851	5621	9562
12.90	66771	55727	95.10	6.77	88.38	13.73	811.4	57.7	0.852	5625	9601
13.00	67348	56304	95.04	6.82	88.32	13.74	813.0	57.7	0.853	5629	9640
13.10	67925	56881	94.98	6.87	88.26	13.74	814.5	57.7	0.854	5633	9679
13.20	68503	57459	94.93	6.93	88.20	13.75	816.1	57.8	0.854	5637	9718

Carl Bro a/s - DMC
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MS SPAR LYRA
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TRIM = 2

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MAIN CHARACTERISTICS OF THE VESSEL:

Length betw. perpendiculars	183.25	m
Breadth, moulded	32.26	m
Design draught	12.50	m
X-coord. of after perpendicular	0.00	m
X-coord. of reference point	91.63	m
X-coord. of midship section	91.63	m
X-coord. of building frame 0	0.00	m
Thickness of keelplate	0.022	m
Mean thickness of shell plating	0.016	m
Density of water	1.0250	ton/m3

Calculations are based on STABHULL date 2004-10-15 time 14:36

X-coord. of aft end of DWL	-3.85	m
X-coord. of fore end of DWL	183.25	m

calc. sections 604

EXPLANATION OF SYMBOLS:

T	draught, moulded	m
DISP	total displacement	t
DW	deadweight	t
LCB	longitudinal centre of buoyancy	m
VCB	vertical center of buoyancy	m
LCF	long. centre of flotation	m
KMT	transv. metac. height	m
MCT	moment to change trim	tm/cm
TPC	change of displacement/change of draught	t/cm
CB	block coefficient	
WLA	waterline area	m2
WSA	wetted surface area	m2

Calculated for trim=2

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
2.50	10771	-273	92.30	1.29	99.01	34.81	488.8	47.9	0.705	4673	5160
2.60	11251	207	92.59	1.34	99.03	33.61	492.8	48.1	0.709	4689	5205
2.70	11732	688	92.86	1.39	99.05	32.50	496.7	48.2	0.712	4704	5249
2.80	12215	1171	93.10	1.44	99.07	31.47	500.5	48.4	0.715	4719	5293
2.90	12700	1656	93.33	1.49	99.09	30.52	504.2	48.5	0.718	4733	5337
3.00	13186	2141	93.54	1.54	99.10	29.63	507.8	48.7	0.720	4747	5380
3.10	13673	2629	93.74	1.59	99.11	28.81	511.3	48.8	0.723	4760	5424
3.20	14161	3117	93.93	1.64	99.11	28.04	514.8	48.9	0.726	4773	5467
3.30	14651	3607	94.10	1.70	99.11	27.32	518.4	49.1	0.728	4786	5510
3.40	15143	4098	94.26	1.75	99.11	26.65	521.8	49.2	0.731	4799	5553
3.50	15635	4591	94.41	1.80	99.09	26.01	525.2	49.3	0.733	4812	5596
3.60	16129	5085	94.56	1.85	99.08	25.42	528.6	49.4	0.735	4824	5639
3.70	16624	5580	94.69	1.90	99.06	24.86	531.9	49.6	0.737	4836	5681
3.80	17120	6076	94.82	1.95	99.04	24.33	535.3	49.7	0.739	4848	5724
3.90	17617	6573	94.94	2.00	99.01	23.83	538.6	49.8	0.741	4860	5766
4.00	18116	7072	95.05	2.05	98.98	23.36	541.9	49.9	0.743	4871	5809
4.10	18616	7572	95.16	2.11	98.95	22.92	545.3	50.1	0.745	4883	5851
4.20	19117	8073	95.25	2.16	98.91	22.50	548.6	50.2	0.747	4895	5893
4.30	19619	8575	95.35	2.21	98.87	22.10	552.0	50.3	0.749	4906	5936
4.40	20123	9079	95.43	2.26	98.83	21.72	555.4	50.4	0.751	4918	5978
4.50	20628	9584	95.51	2.31	98.78	21.36	558.7	50.5	0.753	4928	6020
4.60	21133	10089	95.59	2.36	98.72	21.01	562.1	50.6	0.755	4940	6063
4.70	21640	10596	95.66	2.41	98.66	20.69	565.4	50.7	0.756	4950	6105
4.80	22148	11104	95.73	2.47	98.60	20.38	568.8	50.9	0.758	4962	6147
4.90	22657	11613	95.80	2.52	98.54	20.08	572.3	51.0	0.760	4973	6189
5.00	23167	12123	95.86	2.57	98.47	19.80	575.7	51.1	0.761	4983	6231
5.10	23679	12635	95.91	2.62	98.39	19.53	579.0	51.2	0.763	4994	6273
5.20	24191	13147	95.96	2.67	98.31	19.27	582.5	51.3	0.764	5005	6315
5.30	24705	13661	96.01	2.73	98.23	19.02	585.9	51.4	0.766	5015	6357
5.40	25219	14175	96.06	2.78	98.15	18.79	589.4	51.5	0.768	5026	6399
5.50	25736	14691	96.10	2.83	97.80	18.62	598.0	51.8	0.769	5054	6459
5.60	26254	15210	96.13	2.88	97.71	18.41	601.5	51.9	0.771	5065	6501
5.70	26774	15730	96.16	2.94	97.61	18.20	605.2	52.0	0.772	5076	6544
5.80	27295	16251	96.18	2.99	97.51	18.01	608.8	52.1	0.774	5087	6586
5.90	27817	16772	96.21	3.04	97.40	17.82	612.4	52.3	0.775	5098	6629
6.00	28340	17296	96.23	3.09	97.29	17.64	616.1	52.4	0.776	5109	6671
6.10	28864	17820	96.25	3.15	97.18	17.46	619.9	52.5	0.778	5119	6714
6.20	29389	18345	96.26	3.20	97.06	17.30	623.6	52.6	0.779	5130	6757
6.30	29916	18871	96.28	3.25	96.94	17.14	627.5	52.7	0.781	5142	6800
6.40	30443	19399	96.29	3.30	96.82	16.99	631.4	52.8	0.782	5153	6843
6.50	30972	19928	96.29	3.36	96.70	16.84	635.4	52.9	0.783	5164	6886
6.60	31502	20458	96.30	3.41	96.56	16.70	639.4	53.0	0.785	5175	6929
6.70	32033	20989	96.30	3.46	96.42	16.56	643.4	53.2	0.786	5186	6972
6.80	32565	21521	96.30	3.51	96.28	16.44	647.7	53.3	0.788	5198	7016
6.90	33098	22054	96.30	3.57	96.13	16.31	652.0	53.4	0.789	5210	7060
7.00	33633	22589	96.30	3.62	95.97	16.19	656.4	53.5	0.790	5222	7104
7.10	34169	23125	96.29	3.67	95.82	16.08	661.0	53.6	0.791	5234	7149
7.20	34706	23662	96.28	3.73	95.65	15.97	665.6	53.8	0.793	5246	7193
7.30	35244	24200	96.27	3.78	95.48	15.86	670.3	53.9	0.794	5258	7238
7.40	35784	24740	96.26	3.83	95.31	15.76	674.9	54.0	0.795	5271	7283
7.50	36324	25280	96.24	3.89	95.14	15.66	679.5	54.1	0.797	5283	7328
7.60	36867	25822	96.23	3.94	94.99	15.57	683.6	54.3	0.798	5293	7374
7.70	37409	26365	96.21	3.99	94.86	15.48	687.1	54.4	0.799	5303	7421
7.80	37954	26910	96.19	4.05	94.38	15.39	700.4	54.7	0.800	5333	7482

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T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
7.90	38502	27458	96.16	4.10	94.17	15.31	705.9	54.8	0.802	5346	7529
8.00	39050	28006	96.13	4.15	94.00	15.23	710.4	54.9	0.803	5358	7573
8.10	39600	28556	96.10	4.21	93.83	15.15	714.8	55.0	0.804	5369	7617
8.20	40151	29107	96.07	4.26	93.67	15.08	719.2	55.1	0.806	5380	7661
8.30	40703	29659	96.03	4.32	93.51	15.01	723.4	55.3	0.807	5391	7705
8.40	41256	30212	96.00	4.37	93.35	14.94	727.6	55.4	0.808	5401	7749
8.50	41810	30766	95.96	4.42	93.19	14.88	731.7	55.5	0.809	5412	7793
8.60	42365	31321	95.92	4.48	93.04	14.82	735.6	55.6	0.811	5422	7836
8.70	42921	31877	95.89	4.53	92.89	14.76	739.5	55.7	0.812	5432	7879
8.80	43478	32434	95.85	4.58	92.74	14.70	743.2	55.8	0.813	5441	7923
8.90	44037	32993	95.81	4.64	92.60	14.65	746.9	55.9	0.814	5451	7966
9.00	44596	33552	95.77	4.69	92.45	14.60	750.5	56.0	0.815	5460	8008
9.10	45156	34112	95.72	4.75	92.32	14.55	754.0	56.1	0.817	5469	8051
9.20	45717	34673	95.68	4.80	92.18	14.50	757.4	56.1	0.818	5477	8094
9.30	46279	35235	95.64	4.85	92.04	14.45	760.7	56.2	0.819	5486	8136
9.40	46841	35797	95.59	4.91	91.91	14.41	763.8	56.3	0.820	5494	8179
9.50	47405	36361	95.55	4.96	91.78	14.37	766.9	56.4	0.821	5501	8221
9.60	47969	36925	95.50	5.02	91.65	14.33	769.9	56.5	0.822	5509	8263
9.70	48534	37490	95.46	5.07	91.52	14.29	772.8	56.5	0.823	5517	8305
9.80	49100	38056	95.41	5.12	91.40	14.25	775.6	56.6	0.825	5524	8347
9.90	49666	38622	95.37	5.18	91.27	14.22	778.3	56.7	0.826	5531	8389
10.00	50234	39190	95.32	5.23	91.15	14.19	780.9	56.8	0.827	5537	8430
10.10	50801	39757	95.27	5.29	91.02	14.15	783.4	56.8	0.828	5544	8472
10.20	51370	40326	95.22	5.34	90.90	14.12	785.8	56.9	0.829	5550	8513
10.30	51939	40895	95.18	5.39	90.78	14.10	788.1	56.9	0.830	5556	8555
10.40	52509	41465	95.13	5.45	90.67	14.07	790.3	57.0	0.831	5561	8596
10.50	53079	42035	95.08	5.50	90.55	14.04	792.3	57.1	0.832	5567	8637
10.60	53650	42606	95.03	5.56	90.43	14.02	794.3	57.1	0.833	5572	8678
10.70	54221	43177	94.98	5.61	90.32	14.00	796.2	57.2	0.834	5577	8719
10.80	54793	43749	94.93	5.66	90.21	13.97	798.0	57.2	0.835	5582	8760
10.90	55365	44321	94.88	5.72	90.09	13.95	799.7	57.3	0.836	5586	8801
11.00	55938	44894	94.83	5.77	89.99	13.94	801.3	57.3	0.837	5591	8842
11.10	56511	45467	94.78	5.82	89.88	13.92	802.9	57.3	0.838	5595	8883
11.20	57085	46041	94.73	5.88	89.77	13.90	804.3	57.4	0.839	5599	8924
11.30	57659	46615	94.68	5.93	89.66	13.89	805.5	57.4	0.840	5603	8965
11.40	58234	47190	94.63	5.99	89.55	13.87	806.7	57.5	0.841	5606	9006
11.50	58809	47764	94.58	6.04	89.44	13.86	807.6	57.5	0.842	5609	9047
11.60	59384	48339	94.53	6.09	89.33	13.85	808.6	57.5	0.843	5612	9087
11.70	59959	48915	94.48	6.15	89.22	13.83	809.4	57.5	0.844	5614	9128
11.80	60534	49490	94.43	6.20	89.10	13.82	810.0	57.6	0.845	5616	9169
11.90	61110	50066	94.38	6.25	88.99	13.81	810.5	57.6	0.845	5618	9210
12.00	61686	50642	94.33	6.31	88.87	13.81	810.9	57.6	0.846	5620	9251
12.10	62262	51218	94.28	6.36	88.75	13.80	811.0	57.6	0.847	5621	9293
12.20	62838	51794	94.23	6.41	88.63	13.79	811.0	57.6	0.848	5622	9334
12.30	63415	52370	94.18	6.47	88.50	13.79	810.6	57.6	0.849	5622	9376
12.40	63991	52947	94.12	6.52	88.40	13.79	811.1	57.6	0.850	5624	9418
12.50	64567	53523	94.07	6.57	88.33	13.78	812.7	57.7	0.850	5628	9457
12.60	65144	54100	94.02	6.63	88.27	13.78	814.2	57.7	0.851	5632	9495
12.70	65722	54678	93.97	6.68	88.22	13.78	815.8	57.8	0.852	5636	9534
12.80	66300	55256	93.92	6.73	88.16	13.78	817.3	57.8	0.853	5640	9573
12.90	66878	55834	93.87	6.79	88.10	13.79	818.7	57.9	0.854	5644	9612
13.00	67457	56413	93.82	6.84	88.05	13.79	820.2	57.9	0.854	5648	9651
13.10	68036	56992	93.77	6.89	87.99	13.79	821.6	57.9	0.855	5652	9690
13.20	68615	57571	93.72	6.95	87.94	13.80	823.0	58.0	0.856	5655	9728

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MAIN CHARACTERISTICS OF THE VESSEL:

Length betw. perpendiculars	183.25	m
Breadth, moulded	32.26	m
Design draught	12.50	m
X-coord. of after perpendicular	0.00	m
X-coord. of reference point	91.63	m
X-coord. of midship section	91.63	m
X-coord. of building frame 0	0.00	m
Thickness of keelplate	0.022	m
Mean thickness of shell plating	0.016	m
Density of water	1.0250	ton/m3

Calculations are based on STABHULL date 2004-10-15 time 14:36

X-coord. of aft end of DWL	-3.85	m
X-coord. of fore end of DWL	183.25	m

calc. sections 604

EXPLANATION OF SYMBOLS:

T	draught, moulded	m
DISP	total displacement	t
DW	deadweight	t
LCB	longitudinal centre of buoyancy	m
VCB	vertical center of buoyancy	m
LCF	long. centre of flotation	m
KMT	transv. metac. height	m
MCT	moment to change trim	tm/cm
TPC	change of displacement/change of draught	t/cm
CB	block coefficient	
WLA	waterline area	m2
WSA	wetted surface area	m2

Carl Bro a/s - DMC
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MS SPAR LYRA
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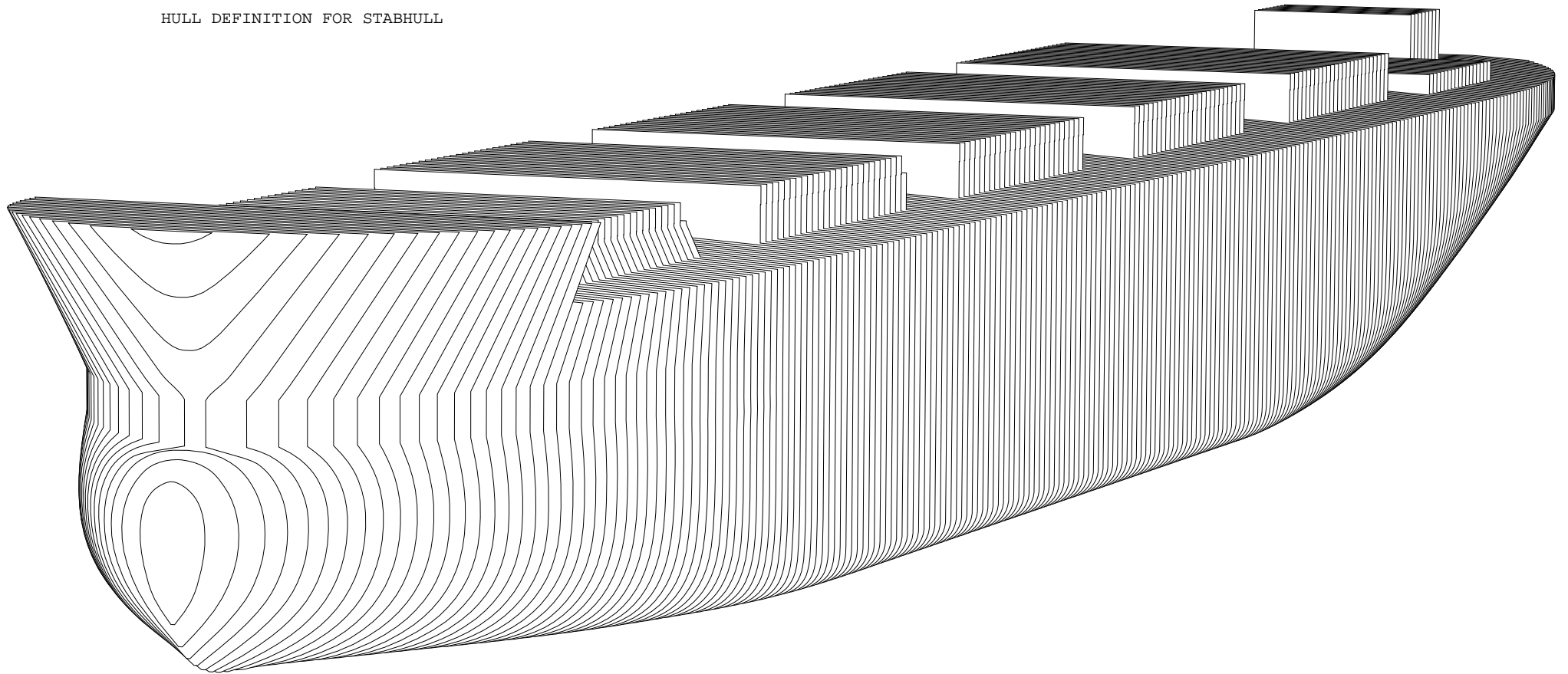
Calculated for trim=3

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
2.50	10590	-454	87.61	1.33	98.12	35.39	482.7	47.7	0.694	4658	5152
2.60	11068	24	88.06	1.38	98.18	34.15	487.1	47.9	0.697	4675	5198
2.70	11548	504	88.49	1.43	98.22	33.01	491.3	48.1	0.701	4691	5243
2.80	12030	986	88.88	1.48	98.25	31.96	495.4	48.2	0.704	4706	5288
2.90	12513	1469	89.24	1.53	98.28	30.98	499.5	48.4	0.707	4722	5332
3.00	12998	1953	89.58	1.58	98.31	30.08	503.6	48.6	0.710	4737	5377
3.10	13484	2440	89.89	1.62	98.33	29.23	507.6	48.7	0.713	4752	5421
3.20	13972	2927	90.19	1.67	98.35	28.45	511.6	48.9	0.716	4767	5465
3.30	14461	3417	90.46	1.72	98.36	27.71	515.6	49.0	0.719	4781	5509
3.40	14952	3907	90.72	1.77	98.36	27.02	519.5	49.2	0.721	4795	5553
3.50	15443	4399	90.97	1.82	98.36	26.37	523.4	49.3	0.724	4809	5597
3.60	15937	4893	91.20	1.87	98.36	25.76	527.3	49.4	0.726	4823	5640
3.70	16432	5388	91.41	1.92	98.34	25.19	531.1	49.6	0.729	4836	5683
3.80	16928	5884	91.62	1.97	98.33	24.65	534.9	49.7	0.731	4849	5727
3.90	17426	6382	91.81	2.02	98.31	24.14	538.7	49.8	0.733	4862	5770
4.00	17925	6881	91.99	2.08	98.28	23.66	542.5	50.0	0.736	4875	5813
4.10	18426	7381	92.16	2.13	98.25	23.20	546.2	50.1	0.738	4888	5856
4.20	18927	7883	92.32	2.18	98.21	22.77	550.0	50.2	0.740	4901	5899
4.30	19430	8386	92.47	2.23	98.17	22.37	553.8	50.4	0.742	4913	5942
4.40	19934	8890	92.61	2.28	98.13	21.98	557.7	50.5	0.744	4926	5984
4.50	20440	9396	92.75	2.33	98.08	21.61	561.5	50.6	0.746	4938	6027
4.60	20946	9902	92.88	2.38	98.03	21.26	565.3	50.7	0.748	4950	6070
4.70	21454	10410	93.00	2.43	97.97	20.93	569.2	50.9	0.750	4963	6113
4.80	21964	10920	93.11	2.48	97.91	20.61	573.1	51.0	0.752	4975	6156
4.90	22474	11430	93.22	2.53	97.85	20.31	576.9	51.1	0.754	4987	6198
5.00	22986	11942	93.32	2.59	97.78	20.02	580.7	51.2	0.755	4999	6241
5.10	23499	12455	93.42	2.64	97.62	19.77	586.5	51.4	0.757	5017	6290
5.20	24015	12971	93.51	2.69	97.37	19.55	593.8	51.7	0.759	5041	6344
5.30	24532	13488	93.59	2.74	97.29	19.30	597.8	51.8	0.761	5053	6387
5.40	25050	14006	93.66	2.79	97.20	19.06	601.8	51.9	0.762	5065	6430
5.50	25570	14526	93.73	2.85	97.10	18.83	605.8	52.0	0.764	5077	6473
5.60	26091	15047	93.80	2.90	97.00	18.61	609.9	52.2	0.766	5089	6516
5.70	26613	15569	93.86	2.95	96.90	18.39	614.0	52.3	0.767	5101	6559
5.80	27137	16093	93.92	3.00	96.80	18.19	618.1	52.4	0.769	5113	6603
5.90	27662	16617	93.97	3.06	96.68	18.00	622.3	52.5	0.771	5126	6646
6.00	28187	17143	94.02	3.11	96.57	17.82	626.5	52.7	0.772	5138	6689
6.10	28715	17671	94.07	3.16	96.45	17.64	630.8	52.8	0.774	5150	6733
6.20	29243	18199	94.11	3.21	96.32	17.47	635.2	52.9	0.775	5162	6777
6.30	29773	18729	94.15	3.27	96.19	17.31	639.7	53.0	0.777	5175	6820
6.40	30304	19260	94.18	3.32	96.05	17.15	644.3	53.2	0.779	5187	6865
6.50	30836	19792	94.21	3.37	95.91	17.00	649.0	53.3	0.780	5200	6909
6.60	31370	20325	94.24	3.42	95.76	16.86	653.8	53.4	0.782	5213	6954
6.70	31905	20860	94.26	3.48	95.60	16.72	658.7	53.6	0.783	5226	6999
6.80	32441	21397	94.29	3.53	95.44	16.59	663.8	53.7	0.785	5240	7044
6.90	32979	21934	94.30	3.58	95.28	16.46	668.8	53.8	0.786	5253	7089
7.00	33518	22474	94.32	3.64	95.12	16.34	673.8	54.0	0.787	5266	7135
7.10	34058	23014	94.33	3.69	94.98	16.22	678.0	54.1	0.789	5278	7181
7.20	34599	23555	94.34	3.74	94.84	16.11	682.3	54.2	0.790	5289	7228
7.30	35143	24099	94.34	3.80	94.42	16.00	694.3	54.5	0.792	5316	7287
7.40	35689	24644	94.34	3.85	94.17	15.90	701.6	54.7	0.793	5334	7337
7.50	36236	25192	94.34	3.90	94.01	15.80	706.4	54.8	0.795	5346	7381
7.60	36784	25740	94.33	3.96	93.85	15.70	711.2	54.9	0.796	5358	7426
7.70	37334	26290	94.32	4.01	93.69	15.61	715.8	55.0	0.798	5370	7470
7.80	37885	26841	94.31	4.07	93.53	15.52	720.3	55.2	0.799	5382	7514

T	DISP	DW	LCB	VCB	LCF	KMT	MCT	TPC	CB	WLA	WSA
m	t	t	m	m	m	m	tm/cm	t/cm		m2	m2
7.90	38437	27393	94.30	4.12	93.38	15.44	724.7	55.3	0.800	5393	7558
8.00	38990	27946	94.29	4.17	93.23	15.36	729.0	55.4	0.802	5404	7602
8.10	39545	28501	94.27	4.23	93.08	15.28	733.2	55.5	0.803	5414	7645
8.20	40100	29056	94.25	4.28	92.93	15.20	737.3	55.6	0.805	5425	7689
8.30	40657	29613	94.23	4.34	92.79	15.13	741.3	55.7	0.806	5435	7732
8.40	41214	30170	94.21	4.39	92.65	15.06	745.2	55.8	0.807	5445	7775
8.50	41773	30729	94.19	4.44	92.51	14.99	749.0	55.9	0.809	5455	7818
8.60	42332	31288	94.17	4.50	92.37	14.93	752.7	56.0	0.810	5464	7861
8.70	42893	31849	94.14	4.55	92.24	14.87	756.3	56.1	0.811	5473	7903
8.80	43454	32410	94.12	4.61	92.11	14.81	759.8	56.2	0.812	5482	7946
8.90	44017	32972	94.09	4.66	91.98	14.75	763.3	56.3	0.814	5491	7988
9.00	44580	33536	94.06	4.71	91.85	14.70	766.6	56.4	0.815	5500	8031
9.10	45144	34100	94.04	4.77	91.73	14.65	769.8	56.5	0.816	5508	8073
9.20	45709	34665	94.01	4.82	91.61	14.60	773.0	56.5	0.818	5516	8115
9.30	46274	35230	93.98	4.88	91.49	14.55	776.1	56.6	0.819	5524	8157
9.40	46841	35797	93.95	4.93	91.37	14.51	779.1	56.7	0.820	5531	8199
9.50	47408	36364	93.91	4.98	91.26	14.46	782.0	56.8	0.821	5539	8240
9.60	47976	36932	93.88	5.04	91.14	14.42	784.9	56.8	0.822	5546	8282
9.70	48545	37501	93.85	5.09	91.03	14.38	787.6	56.9	0.824	5553	8323
9.80	49114	38070	93.82	5.15	90.92	14.35	790.2	57.0	0.825	5560	8365
9.90	49685	38641	93.78	5.20	90.81	14.31	792.8	57.1	0.826	5566	8406
10.00	50255	39211	93.75	5.26	90.71	14.28	795.2	57.1	0.827	5572	8447
10.10	50827	39783	93.71	5.31	90.60	14.24	797.5	57.2	0.828	5579	8488
10.20	51399	40355	93.68	5.36	90.50	14.21	799.8	57.2	0.829	5584	8529
10.30	51971	40927	93.64	5.42	90.40	14.18	802.0	57.3	0.830	5590	8570
10.40	52545	41501	93.61	5.47	90.30	14.15	804.0	57.4	0.832	5595	8611
10.50	53118	42074	93.57	5.53	90.20	14.13	806.0	57.4	0.833	5600	8651
10.60	53693	42648	93.53	5.58	90.10	14.10	807.8	57.5	0.834	5605	8692
10.70	54267	43223	93.50	5.63	90.00	14.08	809.6	57.5	0.835	5610	8732
10.80	54842	43798	93.46	5.69	89.90	14.06	811.3	57.5	0.836	5615	8773
10.90	55418	44374	93.42	5.74	89.81	14.04	812.9	57.6	0.837	5619	8813
11.00	55994	44950	93.38	5.80	89.71	14.02	814.4	57.6	0.838	5623	8853
11.10	56570	45526	93.35	5.85	89.62	14.00	815.8	57.7	0.839	5627	8894
11.20	57147	46103	93.31	5.90	89.52	13.98	817.2	57.7	0.840	5631	8934
11.30	57724	46680	93.27	5.96	89.43	13.96	818.5	57.7	0.841	5634	8974
11.40	58302	47258	93.23	6.01	89.34	13.95	819.6	57.8	0.842	5637	9014
11.50	58880	47836	93.19	6.06	89.25	13.93	820.8	57.8	0.843	5641	9054
11.60	59458	48414	93.15	6.12	89.16	13.92	821.8	57.8	0.844	5644	9094
11.70	60037	48993	93.12	6.17	89.06	13.91	822.8	57.9	0.845	5646	9134
11.80	60616	49572	93.08	6.23	88.97	13.90	823.6	57.9	0.846	5649	9175
11.90	61195	50151	93.04	6.28	88.88	13.89	824.3	57.9	0.847	5651	9215
12.00	61774	50730	93.00	6.33	88.78	13.88	824.9	57.9	0.847	5653	9255
12.10	62354	51310	92.96	6.39	88.68	13.87	825.4	58.0	0.848	5655	9296
12.20	62933	51889	92.92	6.44	88.58	13.86	825.9	58.0	0.849	5657	9336
12.30	63513	52469	92.88	6.49	88.48	13.86	826.2	58.0	0.850	5658	9376
12.40	64093	53049	92.84	6.55	88.38	13.85	826.4	58.0	0.851	5659	9417
12.50	64673	53629	92.80	6.60	88.28	13.85	826.4	58.0	0.852	5660	9458
12.60	65253	54209	92.76	6.65	88.17	13.85	826.3	58.0	0.853	5661	9498
12.70	65833	54789	92.72	6.71	88.06	13.84	826.0	58.0	0.853	5661	9540
12.80	66414	55369	92.68	6.76	87.94	13.84	825.4	58.0	0.854	5661	9582
12.90	66994	55950	92.63	6.81	87.85	13.84	825.6	58.0	0.855	5662	9622
13.00	67574	56530	92.59	6.87	87.80	13.85	827.0	58.1	0.856	5665	9661
13.10	68155	57111	92.55	6.92	87.75	13.85	828.3	58.1	0.857	5669	9700
13.20	68736	57692	92.51	6.97	87.70	13.85	829.6	58.1	0.857	5672	9738

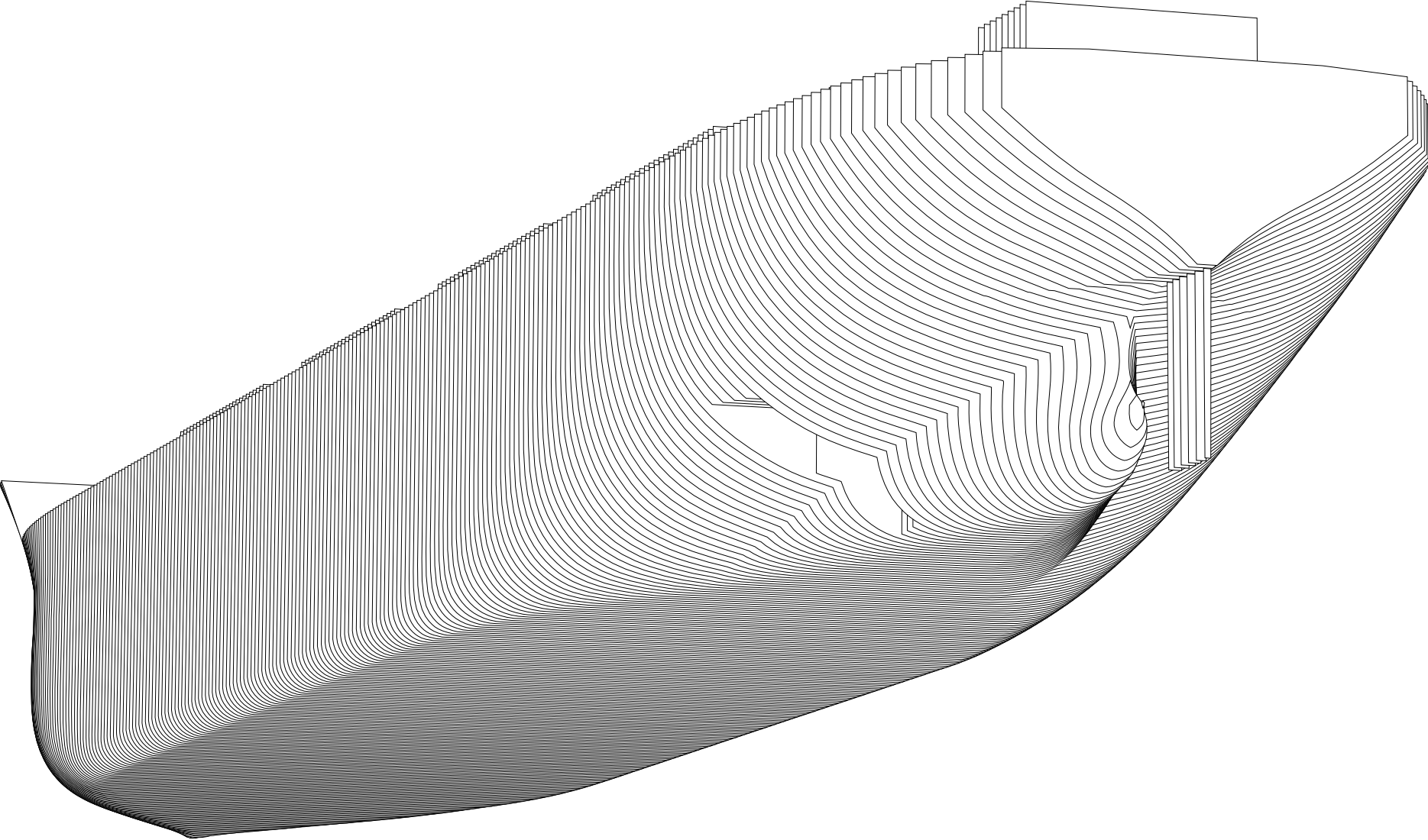
DIAMOND 53

HULL DEFINITION FOR STABHULL



DIAMOND 53

HULL DEFINITION FOR STABHULL



9 STABILITY DATA (MS AND KN TABLES)

This section contains stability data as MS and KN figures, which covers the draught and trim range.

Part 1 – MS data

Trim equal to 1 meter forward	1
Trim equal to even keel	3
Trim equal to 1 meter aft	5
Trim equal to 2 meter aft	7
Trim equal to 3 meter aft	9

Part 2 – KN data

Trim equal to 1 meter forward	1
Trim equal to even keel	3
Trim equal to 1 meter aft	5
Trim equal to 2 meter aft	7
Trim equal to 3 meter aft	9

RESIDUARY STABILITY LEVER MS AS A FUNCTION OF DRAUGHT AND HEELING ANGLE
 INITIAL TRIM: -1.00 M UNIT: m

INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	-0.004	-0.123	-0.356	-2.426	-6.037	-9.941	-13.670	-16.880	-20.654
2.60	-0.003	-0.094	-0.282	-2.173	-5.579	-9.279	-12.835	-15.903	-19.593
2.70	-0.002	-0.071	-0.220	-1.945	-5.154	-8.671	-12.065	-15.001	-18.613
2.80	-0.001	-0.053	-0.170	-1.738	-4.763	-8.109	-11.350	-14.164	-17.703
2.90	-0.001	-0.039	-0.129	-1.551	-4.404	-7.588	-10.685	-13.387	-16.860
3.00	-0.000	-0.028	-0.097	-1.381	-4.073	-7.105	-10.065	-12.665	-16.077
3.10	-0.000	-0.019	-0.072	-1.226	-3.766	-6.654	-9.484	-11.991	-15.345
3.20	-0.000	-0.011	-0.052	-1.085	-3.480	-6.233	-8.939	-11.361	-14.660
3.30	-0.000	-0.005	-0.036	-0.955	-3.214	-5.837	-8.425	-10.769	-14.016
3.40	-0.000	0.000	-0.022	-0.838	-2.966	-5.467	-7.942	-10.216	-13.413
3.50	-0.000	0.004	-0.012	-0.731	-2.736	-5.121	-7.487	-9.698	-12.847
3.60	-0.001	0.008	-0.003	-0.633	-2.521	-4.794	-7.058	-9.210	-12.313
3.70	-0.001	0.010	0.005	-0.543	-2.319	-4.487	-6.653	-8.751	-11.809
3.80	-0.001	0.013	0.012	-0.461	-2.130	-4.197	-6.270	-8.319	-11.331
3.90	-0.001	0.015	0.017	-0.386	-1.952	-3.922	-5.908	-7.910	-10.878
4.00	-0.001	0.016	0.022	-0.317	-1.786	-3.663	-5.566	-7.525	-10.447
4.10	-0.000	0.017	0.026	-0.255	-1.630	-3.418	-5.243	-7.161	-10.038
4.20	-0.000	0.019	0.030	-0.199	-1.483	-3.186	-4.937	-6.818	-9.648
4.30	-0.001	0.019	0.032	-0.148	-1.346	-2.967	-4.649	-6.495	-9.279
4.40	-0.001	0.020	0.034	-0.102	-1.217	-2.760	-4.378	-6.189	-8.928
4.50	-0.001	0.020	0.036	-0.061	-1.097	-2.564	-4.122	-5.901	-8.594
4.60	-0.001	0.020	0.037	-0.025	-0.983	-2.378	-3.881	-5.629	-8.277
4.70	-0.001	0.020	0.039	0.008	-0.876	-2.201	-3.652	-5.370	-7.973
4.80	-0.002	0.021	0.040	0.038	-0.775	-2.033	-3.435	-5.125	-7.683
4.90	-0.002	0.021	0.040	0.063	-0.681	-1.873	-3.231	-4.894	-7.407
5.00	-0.002	0.021	0.041	0.086	-0.592	-1.721	-3.039	-4.675	-7.144
5.10	-0.003	0.021	0.041	0.105	-0.508	-1.576	-2.857	-4.467	-6.893
5.20	-0.003	0.021	0.042	0.122	-0.430	-1.438	-2.685	-4.270	-6.653
5.30	-0.003	0.022	0.042	0.136	-0.355	-1.307	-2.522	-4.082	-6.423
5.40	-0.004	0.022	0.043	0.149	-0.285	-1.181	-2.367	-3.903	-6.203
5.50	-0.004	0.022	0.043	0.159	-0.219	-1.062	-2.221	-3.734	-5.993
5.60	-0.004	0.023	0.044	0.168	-0.157	-0.949	-2.083	-3.572	-5.793
5.70	-0.004	0.023	0.044	0.176	-0.099	-0.841	-1.952	-3.418	-5.602
5.80	-0.004	0.023	0.044	0.182	-0.044	-0.739	-1.829	-3.271	-5.420
5.90	-0.004	0.023	0.044	0.188	0.008	-0.643	-1.713	-3.130	-5.245
6.00	-0.004	0.024	0.045	0.192	0.057	-0.552	-1.603	-2.996	-5.079
6.10	-0.004	0.024	0.045	0.196	0.103	-0.465	-1.498	-2.867	-4.920
6.20	-0.003	0.024	0.045	0.200	0.146	-0.384	-1.400	-2.744	-4.768
6.30	-0.003	0.024	0.045	0.202	0.187	-0.307	-1.307	-2.626	-4.623
6.40	-0.003	0.024	0.045	0.205	0.225	-0.234	-1.220	-2.512	-4.484
6.50	-0.003	0.025	0.046	0.206	0.261	-0.166	-1.137	-2.404	-4.352
6.60	-0.007	0.016	0.036	0.191	0.271	-0.134	-1.097	-2.342	-4.272
6.70	-0.007	0.016	0.036	0.192	0.302	-0.075	-1.024	-2.243	-4.152
6.80	-0.006	0.016	0.035	0.192	0.331	-0.020	-0.955	-2.149	-4.038
6.90	-0.006	0.016	0.035	0.192	0.358	0.031	-0.891	-2.059	-3.929
7.00	-0.006	0.016	0.035	0.192	0.383	0.079	-0.830	-1.974	-3.825
7.10	-0.006	0.016	0.035	0.192	0.406	0.122	-0.773	-1.892	-3.726
7.20	-0.006	0.016	0.035	0.191	0.428	0.163	-0.719	-1.815	-3.631
7.30	-0.006	0.016	0.035	0.191	0.448	0.201	-0.668	-1.741	-3.541
7.40	-0.006	0.016	0.035	0.190	0.467	0.235	-0.620	-1.671	-3.455
7.50	-0.006	0.016	0.034	0.189	0.484	0.266	-0.575	-1.605	-3.373
7.60	-0.006	0.016	0.034	0.188	0.499	0.294	-0.533	-1.543	-3.295
7.70	-0.006	0.016	0.034	0.187	0.514	0.320	-0.493	-1.484	-3.222

Carl Bro a/s - DMC
NAPA/D/STAB/040506
P40357500/CXS4204
P40357500

DIAMOND 53
STABILITY MS DATA
TRIM = -1

DATE 2006-03-28
TIME 08:57
USER HND
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	-0.005	0.016	0.034	0.186	0.527	0.342	-0.456	-1.429	-3.152
7.90	-0.005	0.016	0.033	0.185	0.538	0.363	-0.420	-1.376	-3.085
8.00	-0.005	0.016	0.033	0.184	0.549	0.380	-0.387	-1.327	-3.022
8.10	-0.005	0.016	0.033	0.183	0.558	0.396	-0.355	-1.282	-2.962
8.20	-0.005	0.015	0.032	0.182	0.565	0.409	-0.325	-1.239	-2.905
8.30	-0.005	0.015	0.032	0.181	0.571	0.420	-0.297	-1.200	-2.851
8.40	-0.005	0.015	0.032	0.180	0.576	0.430	-0.271	-1.163	-2.800
8.50	-0.005	0.015	0.032	0.179	0.580	0.437	-0.247	-1.128	-2.752
8.60	-0.005	0.015	0.031	0.178	0.582	0.443	-0.224	-1.097	-2.706
8.70	-0.005	0.015	0.031	0.177	0.583	0.447	-0.204	-1.067	-2.663
8.80	-0.005	0.015	0.031	0.176	0.583	0.449	-0.185	-1.040	-2.623
8.90	-0.005	0.015	0.031	0.175	0.581	0.450	-0.168	-1.016	-2.585
9.00	-0.004	0.015	0.031	0.174	0.578	0.450	-0.153	-0.993	-2.549
9.10	-0.004	0.015	0.030	0.173	0.574	0.448	-0.139	-0.974	-2.516
9.20	-0.004	0.014	0.030	0.172	0.569	0.444	-0.128	-0.956	-2.485
9.30	-0.004	0.014	0.030	0.170	0.562	0.439	-0.118	-0.941	-2.457
9.40	-0.004	0.014	0.030	0.170	0.555	0.433	-0.110	-0.927	-2.430
9.50	-0.004	0.014	0.029	0.169	0.546	0.426	-0.104	-0.915	-2.406
9.60	-0.004	0.014	0.029	0.167	0.536	0.418	-0.099	-0.905	-2.383
9.70	-0.004	0.014	0.029	0.167	0.525	0.408	-0.096	-0.897	-2.363
9.80	-0.004	0.014	0.029	0.166	0.514	0.399	-0.095	-0.891	-2.343
9.90	-0.004	0.014	0.029	0.165	0.501	0.389	-0.095	-0.885	-2.325
10.00	-0.004	0.014	0.029	0.165	0.488	0.378	-0.096	-0.882	-2.309
10.10	-0.004	0.014	0.029	0.164	0.474	0.366	-0.099	-0.879	-2.294
10.20	-0.004	0.014	0.029	0.164	0.459	0.354	-0.103	-0.879	-2.280
10.30	-0.004	0.014	0.029	0.163	0.443	0.342	-0.109	-0.879	-2.269
10.40	-0.004	0.014	0.029	0.163	0.426	0.329	-0.116	-0.881	-2.259
10.50	-0.004	0.014	0.029	0.162	0.409	0.315	-0.125	-0.885	-2.250
10.60	-0.004	0.014	0.029	0.162	0.391	0.300	-0.134	-0.890	-2.243
10.70	-0.003	0.014	0.029	0.162	0.372	0.284	-0.146	-0.896	-2.237
10.80	-0.003	0.014	0.029	0.161	0.353	0.268	-0.158	-0.903	-2.232
10.90	-0.003	0.014	0.029	0.161	0.333	0.250	-0.172	-0.912	-2.229
11.00	-0.003	0.014	0.029	0.160	0.312	0.231	-0.188	-0.923	-2.228
11.10	-0.003	0.014	0.028	0.159	0.291	0.211	-0.206	-0.936	-2.229
11.20	-0.003	0.014	0.028	0.159	0.269	0.190	-0.224	-0.950	-2.231
11.30	-0.003	0.014	0.028	0.158	0.247	0.168	-0.244	-0.964	-2.234
11.40	-0.003	0.014	0.028	0.157	0.225	0.145	-0.265	-0.980	-2.238
11.50	-0.003	0.013	0.028	0.155	0.202	0.122	-0.287	-0.997	-2.243
11.60	-0.003	0.013	0.028	0.154	0.179	0.097	-0.310	-1.015	-2.249
11.70	-0.003	0.013	0.028	0.152	0.156	0.072	-0.334	-1.033	-2.255
11.80	-0.003	0.013	0.028	0.150	0.133	0.045	-0.359	-1.053	-2.263
11.90	-0.003	0.013	0.028	0.147	0.110	0.018	-0.386	-1.073	-2.272
12.00	-0.003	0.013	0.028	0.144	0.088	-0.010	-0.413	-1.094	-2.281
12.10	-0.003	0.013	0.028	0.139	0.065	-0.038	-0.441	-1.116	-2.292
12.20	-0.003	0.014	0.028	0.135	0.042	-0.068	-0.470	-1.139	-2.303
12.30	-0.003	0.014	0.028	0.129	0.020	-0.098	-0.500	-1.163	-2.315
12.40	-0.003	0.014	0.028	0.122	-0.002	-0.129	-0.531	-1.188	-2.327
12.50	-0.003	0.014	0.028	0.115	-0.025	-0.161	-0.563	-1.213	-2.341
12.60	-0.003	0.014	0.028	0.106	-0.047	-0.193	-0.596	-1.239	-2.355
12.70	-0.003	0.014	0.028	0.097	-0.069	-0.226	-0.629	-1.267	-2.371
12.80	-0.003	0.014	0.028	0.087	-0.091	-0.259	-0.663	-1.294	-2.386
12.90	-0.002	0.015	0.028	0.076	-0.112	-0.293	-0.698	-1.323	-2.403
13.00	-0.002	0.015	0.029	0.064	-0.134	-0.327	-0.734	-1.353	-2.420
13.10	-0.002	0.015	0.029	0.051	-0.156	-0.362	-0.770	-1.383	-2.438
13.20	-0.002	0.015	0.029	0.037	-0.179	-0.398	-0.808	-1.415	-2.458

RESIDUARY STABILITY LEVER MS AS A FUNCTION OF DRAUGHT AND HEELING ANGLE
INITIAL TRIM: 0.00 M UNIT: m

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INITIAL	HEELING ANGLE (DEGREES)								
DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	-0.006	-0.144	-0.410	-2.612	-6.353	-10.352	-14.198	-17.492	-21.331
2.60	-0.004	-0.109	-0.325	-2.340	-5.864	-9.663	-13.319	-16.470	-20.216
2.70	-0.003	-0.084	-0.256	-2.095	-5.416	-9.024	-12.511	-15.519	-19.187
2.80	-0.002	-0.064	-0.198	-1.874	-5.006	-8.435	-11.763	-14.639	-18.237
2.90	-0.001	-0.048	-0.152	-1.674	-4.628	-7.891	-11.068	-13.824	-17.357
3.00	-0.001	-0.036	-0.115	-1.492	-4.281	-7.387	-10.422	-13.068	-16.541
3.10	-0.001	-0.025	-0.085	-1.326	-3.958	-6.915	-9.815	-12.361	-15.776
3.20	-0.001	-0.016	-0.063	-1.175	-3.658	-6.476	-9.248	-11.703	-15.063
3.30	-0.001	-0.009	-0.045	-1.038	-3.381	-6.067	-8.717	-11.089	-14.397
3.40	-0.001	-0.003	-0.031	-0.913	-3.123	-5.684	-8.218	-10.517	-13.774
3.50	-0.001	0.001	-0.019	-0.798	-2.882	-5.324	-7.748	-9.979	-13.188
3.60	-0.001	0.005	-0.008	-0.693	-2.657	-4.986	-7.303	-9.474	-12.635
3.70	-0.001	0.009	0.001	-0.596	-2.445	-4.667	-6.882	-8.999	-12.114
3.80	-0.001	0.011	0.009	-0.509	-2.248	-4.367	-6.486	-8.553	-11.624
3.90	-0.002	0.013	0.015	-0.429	-2.064	-4.086	-6.112	-8.134	-11.161
4.00	-0.002	0.015	0.020	-0.357	-1.892	-3.820	-5.759	-7.740	-10.723
4.10	-0.002	0.016	0.024	-0.291	-1.730	-3.569	-5.424	-7.368	-10.307
4.20	-0.002	0.017	0.028	-0.231	-1.579	-3.332	-5.109	-7.016	-9.911
4.30	-0.002	0.018	0.031	-0.177	-1.436	-3.106	-4.811	-6.684	-9.534
4.40	-0.002	0.019	0.034	-0.127	-1.302	-2.893	-4.530	-6.369	-9.173
4.50	-0.003	0.019	0.036	-0.083	-1.176	-2.691	-4.265	-6.072	-8.829
4.60	-0.003	0.020	0.038	-0.043	-1.057	-2.498	-4.014	-5.791	-8.499
4.70	-0.003	0.021	0.040	-0.007	-0.945	-2.316	-3.778	-5.525	-8.185
4.80	-0.003	0.021	0.041	0.025	-0.841	-2.143	-3.556	-5.274	-7.886
4.90	-0.004	0.022	0.042	0.052	-0.743	-1.979	-3.347	-5.038	-7.602
5.00	-0.004	0.022	0.042	0.077	-0.650	-1.823	-3.150	-4.813	-7.330
5.10	-0.004	0.022	0.043	0.098	-0.563	-1.674	-2.962	-4.600	-7.069
5.20	-0.004	0.023	0.044	0.117	-0.480	-1.531	-2.785	-4.397	-6.820
5.30	-0.004	0.023	0.044	0.133	-0.403	-1.396	-2.618	-4.205	-6.583
5.40	-0.004	0.023	0.045	0.147	-0.330	-1.267	-2.461	-4.024	-6.358
5.50	-0.004	0.024	0.045	0.158	-0.262	-1.145	-2.313	-3.852	-6.143
5.60	-0.004	0.024	0.045	0.167	-0.197	-1.028	-2.172	-3.689	-5.939
5.70	-0.004	0.024	0.045	0.175	-0.136	-0.916	-2.039	-3.532	-5.743
5.80	-0.004	0.024	0.046	0.182	-0.079	-0.810	-1.913	-3.383	-5.556
5.90	-0.004	0.024	0.046	0.188	-0.025	-0.709	-1.795	-3.241	-5.377
6.00	-0.004	0.025	0.046	0.193	0.026	-0.614	-1.683	-3.105	-5.207
6.10	-0.003	0.025	0.046	0.197	0.073	-0.524	-1.577	-2.976	-5.045
6.20	-0.008	0.016	0.035	0.183	0.093	-0.472	-1.516	-2.896	-4.940
6.30	-0.007	0.016	0.035	0.185	0.135	-0.392	-1.422	-2.776	-4.792
6.40	-0.007	0.016	0.035	0.188	0.174	-0.317	-1.333	-2.661	-4.650
6.50	-0.007	0.016	0.035	0.190	0.212	-0.246	-1.249	-2.550	-4.515
6.60	-0.007	0.016	0.035	0.191	0.247	-0.180	-1.170	-2.444	-4.386
6.70	-0.007	0.016	0.035	0.192	0.280	-0.118	-1.096	-2.342	-4.262
6.80	-0.007	0.016	0.035	0.193	0.310	-0.060	-1.026	-2.245	-4.145
6.90	-0.006	0.016	0.035	0.193	0.339	-0.006	-0.960	-2.151	-4.032
7.00	-0.006	0.016	0.035	0.193	0.366	0.043	-0.897	-2.062	-3.925
7.10	-0.006	0.017	0.035	0.193	0.390	0.089	-0.839	-1.978	-3.824
7.20	-0.006	0.017	0.035	0.193	0.413	0.132	-0.784	-1.898	-3.727
7.30	-0.006	0.016	0.035	0.192	0.435	0.171	-0.733	-1.822	-3.635
7.40	-0.006	0.016	0.035	0.191	0.454	0.206	-0.684	-1.750	-3.547
7.50	-0.006	0.016	0.035	0.190	0.472	0.239	-0.639	-1.682	-3.464
7.60	-0.006	0.016	0.034	0.189	0.489	0.268	-0.595	-1.617	-3.384
7.70	-0.006	0.016	0.034	0.188	0.504	0.295	-0.554	-1.556	-3.309

Carl Bro a/s - DMC
NAPA/D/STAB/040506
P40357500/CXS4204
P40357500

DIAMOND 53
STABILITY MS DATA
TRIM = 0

DATE 2006-03-28
TIME 09:05
USER HND
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	-0.005	0.016	0.034	0.187	0.518	0.319	-0.516	-1.499	-3.237
7.90	-0.005	0.016	0.034	0.186	0.530	0.340	-0.479	-1.446	-3.169
8.00	-0.005	0.016	0.034	0.185	0.541	0.359	-0.444	-1.396	-3.104
8.10	-0.005	0.016	0.033	0.184	0.551	0.375	-0.412	-1.349	-3.043
8.20	-0.005	0.016	0.033	0.182	0.560	0.389	-0.381	-1.305	-2.985
8.30	-0.005	0.016	0.033	0.181	0.568	0.400	-0.351	-1.264	-2.930
8.40	-0.005	0.015	0.032	0.180	0.574	0.410	-0.324	-1.226	-2.878
8.50	-0.005	0.015	0.032	0.179	0.579	0.417	-0.298	-1.191	-2.829
8.60	-0.005	0.015	0.032	0.178	0.582	0.423	-0.274	-1.158	-2.783
8.70	-0.005	0.015	0.031	0.176	0.584	0.426	-0.252	-1.129	-2.739
8.80	-0.005	0.015	0.031	0.175	0.584	0.428	-0.233	-1.102	-2.700
8.90	-0.005	0.015	0.031	0.174	0.583	0.429	-0.214	-1.076	-2.660
9.00	-0.005	0.014	0.030	0.173	0.581	0.428	-0.197	-1.053	-2.624
9.10	-0.005	0.014	0.030	0.171	0.578	0.425	-0.182	-1.032	-2.590
9.20	-0.004	0.014	0.030	0.170	0.573	0.421	-0.170	-1.014	-2.559
9.30	-0.004	0.014	0.030	0.169	0.566	0.416	-0.159	-0.997	-2.529
9.40	-0.004	0.014	0.029	0.168	0.559	0.411	-0.149	-0.983	-2.501
9.50	-0.004	0.014	0.029	0.167	0.550	0.404	-0.142	-0.970	-2.475
9.60	-0.004	0.014	0.029	0.166	0.540	0.396	-0.136	-0.959	-2.451
9.70	-0.004	0.013	0.029	0.165	0.529	0.388	-0.132	-0.949	-2.429
9.80	-0.004	0.013	0.028	0.164	0.518	0.378	-0.129	-0.941	-2.408
9.90	-0.004	0.013	0.028	0.164	0.505	0.369	-0.129	-0.935	-2.390
10.00	-0.004	0.013	0.028	0.163	0.491	0.358	-0.129	-0.931	-2.372
10.10	-0.004	0.013	0.028	0.162	0.476	0.347	-0.132	-0.928	-2.357
10.20	-0.004	0.013	0.028	0.162	0.460	0.334	-0.136	-0.926	-2.343
10.30	-0.004	0.013	0.028	0.161	0.444	0.321	-0.141	-0.927	-2.331
10.40	-0.004	0.013	0.028	0.160	0.427	0.308	-0.148	-0.928	-2.320
10.50	-0.004	0.013	0.028	0.160	0.409	0.294	-0.156	-0.931	-2.310
10.60	-0.004	0.013	0.028	0.159	0.390	0.279	-0.165	-0.935	-2.302
10.70	-0.004	0.013	0.028	0.159	0.371	0.263	-0.176	-0.940	-2.295
10.80	-0.004	0.014	0.028	0.159	0.351	0.247	-0.188	-0.946	-2.289
10.90	-0.003	0.014	0.028	0.158	0.330	0.230	-0.201	-0.954	-2.285
11.00	-0.003	0.014	0.028	0.158	0.309	0.212	-0.215	-0.963	-2.281
11.10	-0.003	0.014	0.028	0.157	0.287	0.194	-0.231	-0.973	-2.279
11.20	-0.003	0.014	0.028	0.157	0.265	0.174	-0.248	-0.984	-2.278
11.30	-0.003	0.014	0.028	0.157	0.242	0.154	-0.266	-0.996	-2.278
11.40	-0.003	0.014	0.028	0.156	0.219	0.132	-0.286	-1.010	-2.280
11.50	-0.003	0.014	0.028	0.155	0.195	0.108	-0.308	-1.026	-2.284
11.60	-0.003	0.014	0.028	0.154	0.172	0.084	-0.331	-1.043	-2.289
11.70	-0.003	0.014	0.028	0.153	0.148	0.058	-0.355	-1.061	-2.295
11.80	-0.003	0.014	0.028	0.151	0.124	0.031	-0.380	-1.080	-2.301
11.90	-0.003	0.014	0.028	0.149	0.101	0.004	-0.407	-1.099	-2.309
12.00	-0.003	0.013	0.028	0.146	0.078	-0.024	-0.434	-1.120	-2.318
12.10	-0.003	0.013	0.028	0.142	0.054	-0.053	-0.462	-1.142	-2.327
12.20	-0.003	0.013	0.027	0.137	0.032	-0.083	-0.491	-1.164	-2.338
12.30	-0.003	0.013	0.027	0.131	0.009	-0.114	-0.521	-1.188	-2.349
12.40	-0.003	0.013	0.027	0.124	-0.014	-0.145	-0.552	-1.212	-2.361
12.50	-0.003	0.014	0.027	0.116	-0.037	-0.177	-0.584	-1.237	-2.374
12.60	-0.003	0.014	0.027	0.107	-0.060	-0.210	-0.616	-1.263	-2.388
12.70	-0.003	0.014	0.027	0.098	-0.082	-0.243	-0.649	-1.290	-2.402
12.80	-0.003	0.014	0.027	0.087	-0.105	-0.277	-0.683	-1.318	-2.417
12.90	-0.003	0.014	0.027	0.075	-0.128	-0.311	-0.718	-1.346	-2.433
13.00	-0.003	0.014	0.027	0.063	-0.150	-0.346	-0.754	-1.376	-2.450
13.10	-0.002	0.014	0.027	0.050	-0.173	-0.381	-0.790	-1.406	-2.467
13.20	-0.002	0.014	0.027	0.035	-0.195	-0.417	-0.827	-1.437	-2.486

RESIDUARY STABILITY LEVER MS AS A FUNCTION OF DRAUGHT AND HEELING ANGLE
 INITIAL TRIM: 1.00 M UNIT: m

INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	-0.009	-0.185	-0.488	-2.816	-6.677	-10.766	-14.682	-18.068	-21.962
2.60	-0.007	-0.141	-0.393	-2.525	-6.162	-10.043	-13.771	-16.996	-20.804
2.70	-0.005	-0.108	-0.314	-2.264	-5.693	-9.379	-12.933	-16.008	-19.738
2.80	-0.004	-0.084	-0.248	-2.028	-5.263	-8.767	-12.157	-15.094	-18.753
2.90	-0.004	-0.065	-0.194	-1.815	-4.867	-8.201	-11.437	-14.249	-17.841
3.00	-0.003	-0.048	-0.148	-1.619	-4.500	-7.672	-10.763	-13.459	-16.989
3.10	-0.002	-0.035	-0.111	-1.440	-4.160	-7.180	-10.132	-12.723	-16.194
3.20	-0.002	-0.024	-0.082	-1.278	-3.845	-6.723	-9.544	-12.039	-15.455
3.30	-0.002	-0.015	-0.060	-1.131	-3.554	-6.298	-8.994	-11.404	-14.765
3.40	-0.002	-0.008	-0.042	-0.996	-3.284	-5.901	-8.479	-10.810	-14.120
3.50	-0.002	-0.002	-0.027	-0.873	-3.031	-5.528	-7.993	-10.254	-13.514
3.60	-0.002	0.002	-0.015	-0.761	-2.797	-5.178	-7.537	-9.734	-12.946
3.70	-0.002	0.006	-0.005	-0.660	-2.578	-4.852	-7.107	-9.247	-12.413
3.80	-0.003	0.009	0.004	-0.567	-2.375	-4.545	-6.702	-8.791	-11.912
3.90	-0.003	0.011	0.011	-0.483	-2.184	-4.256	-6.320	-8.363	-11.440
4.00	-0.003	0.013	0.017	-0.405	-2.005	-3.982	-5.956	-7.958	-10.993
4.10	-0.003	0.015	0.022	-0.334	-1.836	-3.723	-5.610	-7.575	-10.567
4.20	-0.004	0.016	0.027	-0.270	-1.678	-3.478	-5.286	-7.215	-10.164
4.30	-0.004	0.017	0.030	-0.212	-1.531	-3.248	-4.980	-6.876	-9.781
4.40	-0.004	0.018	0.033	-0.160	-1.392	-3.030	-4.693	-6.557	-9.416
4.50	-0.005	0.019	0.036	-0.112	-1.261	-2.822	-4.420	-6.254	-9.064
4.60	-0.005	0.020	0.038	-0.069	-1.138	-2.625	-4.164	-5.967	-8.728
4.70	-0.005	0.021	0.040	-0.031	-1.022	-2.437	-3.921	-5.695	-8.406
4.80	-0.005	0.022	0.042	0.004	-0.913	-2.259	-3.692	-5.437	-8.096
4.90	-0.005	0.022	0.043	0.035	-0.810	-2.090	-3.477	-5.193	-7.802
5.00	-0.005	0.023	0.044	0.062	-0.713	-1.928	-3.273	-4.962	-7.520
5.10	-0.005	0.024	0.045	0.086	-0.622	-1.775	-3.081	-4.744	-7.252
5.20	-0.005	0.024	0.045	0.107	-0.537	-1.629	-2.900	-4.537	-6.997
5.30	-0.005	0.024	0.046	0.125	-0.456	-1.491	-2.729	-4.342	-6.755
5.40	-0.004	0.024	0.046	0.140	-0.381	-1.359	-2.569	-4.157	-6.524
5.50	-0.004	0.025	0.046	0.152	-0.309	-1.232	-2.416	-3.980	-6.303
5.60	-0.004	0.025	0.047	0.163	-0.241	-1.111	-2.272	-3.813	-6.092
5.70	-0.004	0.025	0.047	0.172	-0.178	-0.996	-2.136	-3.655	-5.892
5.80	-0.003	0.025	0.047	0.180	-0.118	-0.887	-2.008	-3.504	-5.701
5.90	-0.008	0.016	0.036	0.167	-0.090	-0.818	-1.930	-3.408	-5.573
6.00	-0.008	0.016	0.035	0.172	-0.037	-0.719	-1.816	-3.271	-5.399
6.10	-0.008	0.016	0.035	0.177	0.013	-0.625	-1.708	-3.139	-5.233
6.20	-0.008	0.016	0.035	0.181	0.060	-0.536	-1.606	-3.012	-5.074
6.30	-0.008	0.016	0.035	0.184	0.104	-0.453	-1.509	-2.890	-4.923
6.40	-0.007	0.016	0.035	0.186	0.145	-0.375	-1.419	-2.774	-4.778
6.50	-0.007	0.016	0.035	0.188	0.184	-0.302	-1.333	-2.662	-4.641
6.60	-0.007	0.016	0.035	0.190	0.220	-0.233	-1.253	-2.554	-4.509
6.70	-0.007	0.016	0.035	0.191	0.255	-0.169	-1.177	-2.450	-4.383
6.80	-0.007	0.016	0.035	0.192	0.287	-0.110	-1.105	-2.351	-4.264
6.90	-0.007	0.016	0.035	0.192	0.317	-0.054	-1.038	-2.255	-4.149
7.00	-0.006	0.016	0.035	0.192	0.345	-0.002	-0.975	-2.163	-4.039
7.10	-0.006	0.016	0.035	0.192	0.371	0.046	-0.915	-2.076	-3.935
7.20	-0.006	0.016	0.035	0.192	0.395	0.090	-0.860	-1.993	-3.836
7.30	-0.006	0.016	0.035	0.192	0.418	0.131	-0.807	-1.915	-3.742
7.40	-0.006	0.016	0.035	0.191	0.439	0.168	-0.757	-1.840	-3.652
7.50	-0.006	0.016	0.035	0.190	0.458	0.202	-0.710	-1.770	-3.566
7.60	-0.006	0.016	0.035	0.190	0.475	0.233	-0.665	-1.704	-3.484
7.70	-0.005	0.016	0.034	0.189	0.491	0.261	-0.623	-1.642	-3.407

Carl Bro a/s - DMC
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	-0.005	0.016	0.034	0.187	0.506	0.286	-0.583	-1.583	-3.334
7.90	-0.005	0.016	0.034	0.186	0.519	0.308	-0.545	-1.528	-3.264
8.00	-0.005	0.016	0.034	0.185	0.531	0.328	-0.509	-1.476	-3.198
8.10	-0.005	0.016	0.034	0.184	0.542	0.346	-0.474	-1.427	-3.135
8.20	-0.005	0.016	0.033	0.183	0.552	0.361	-0.442	-1.382	-3.075
8.30	-0.005	0.016	0.033	0.181	0.559	0.372	-0.413	-1.341	-3.020
8.40	-0.005	0.016	0.032	0.180	0.566	0.382	-0.384	-1.302	-2.967
8.50	-0.005	0.015	0.032	0.179	0.572	0.390	-0.357	-1.265	-2.917
8.60	-0.005	0.015	0.032	0.177	0.577	0.395	-0.332	-1.232	-2.870
8.70	-0.005	0.015	0.031	0.176	0.580	0.399	-0.309	-1.201	-2.826
8.80	-0.005	0.015	0.031	0.174	0.581	0.400	-0.288	-1.172	-2.784
8.90	-0.005	0.015	0.031	0.173	0.581	0.401	-0.268	-1.146	-2.745
9.00	-0.005	0.014	0.030	0.172	0.578	0.399	-0.250	-1.122	-2.707
9.10	-0.005	0.014	0.030	0.170	0.575	0.396	-0.234	-1.101	-2.673
9.20	-0.005	0.014	0.029	0.169	0.570	0.393	-0.220	-1.081	-2.640
9.30	-0.005	0.014	0.029	0.168	0.563	0.388	-0.208	-1.063	-2.609
9.40	-0.004	0.014	0.029	0.167	0.556	0.383	-0.197	-1.047	-2.580
9.50	-0.004	0.014	0.029	0.166	0.547	0.376	-0.189	-1.033	-2.553
9.60	-0.004	0.014	0.029	0.165	0.538	0.369	-0.182	-1.020	-2.527
9.70	-0.004	0.013	0.029	0.164	0.526	0.362	-0.177	-1.010	-2.504
9.80	-0.004	0.013	0.028	0.163	0.514	0.353	-0.174	-1.001	-2.482
9.90	-0.004	0.013	0.028	0.163	0.501	0.343	-0.172	-0.994	-2.463
10.00	-0.004	0.013	0.028	0.162	0.487	0.332	-0.172	-0.989	-2.445
10.10	-0.004	0.013	0.028	0.161	0.471	0.320	-0.174	-0.985	-2.428
10.20	-0.004	0.013	0.028	0.160	0.455	0.308	-0.178	-0.983	-2.414
10.30	-0.004	0.013	0.028	0.159	0.438	0.295	-0.182	-0.982	-2.400
10.40	-0.004	0.013	0.028	0.159	0.420	0.281	-0.188	-0.982	-2.388
10.50	-0.004	0.013	0.028	0.158	0.402	0.266	-0.196	-0.984	-2.377
10.60	-0.004	0.013	0.027	0.157	0.382	0.251	-0.205	-0.987	-2.368
10.70	-0.004	0.013	0.027	0.157	0.362	0.235	-0.215	-0.992	-2.360
10.80	-0.004	0.013	0.027	0.156	0.341	0.218	-0.227	-0.997	-2.353
10.90	-0.004	0.013	0.027	0.155	0.320	0.201	-0.240	-1.004	-2.347
11.00	-0.004	0.013	0.027	0.155	0.298	0.183	-0.254	-1.012	-2.343
11.10	-0.003	0.013	0.028	0.154	0.275	0.165	-0.270	-1.021	-2.339
11.20	-0.003	0.013	0.028	0.154	0.252	0.146	-0.287	-1.031	-2.337
11.30	-0.003	0.014	0.028	0.153	0.229	0.125	-0.305	-1.043	-2.336
11.40	-0.003	0.014	0.028	0.152	0.205	0.104	-0.324	-1.055	-2.336
11.50	-0.003	0.014	0.028	0.152	0.182	0.082	-0.344	-1.068	-2.337
11.60	-0.003	0.014	0.028	0.151	0.158	0.058	-0.365	-1.083	-2.339
11.70	-0.003	0.014	0.028	0.151	0.135	0.033	-0.388	-1.098	-2.342
11.80	-0.003	0.014	0.028	0.149	0.112	0.008	-0.412	-1.115	-2.347
11.90	-0.003	0.014	0.028	0.146	0.088	-0.020	-0.437	-1.134	-2.353
12.00	-0.003	0.014	0.028	0.143	0.064	-0.049	-0.464	-1.154	-2.361
12.10	-0.003	0.014	0.028	0.138	0.041	-0.078	-0.492	-1.176	-2.370
12.20	-0.003	0.014	0.027	0.133	0.017	-0.108	-0.521	-1.198	-2.380
12.30	-0.003	0.014	0.027	0.126	-0.007	-0.139	-0.551	-1.221	-2.390
12.40	-0.003	0.014	0.027	0.119	-0.030	-0.171	-0.582	-1.245	-2.402
12.50	-0.003	0.013	0.027	0.110	-0.054	-0.203	-0.613	-1.270	-2.414
12.60	-0.003	0.013	0.027	0.101	-0.078	-0.236	-0.646	-1.296	-2.427
12.70	-0.003	0.013	0.026	0.091	-0.101	-0.269	-0.679	-1.323	-2.441
12.80	-0.003	0.013	0.026	0.079	-0.124	-0.303	-0.713	-1.351	-2.455
12.90	-0.003	0.013	0.026	0.067	-0.148	-0.338	-0.748	-1.380	-2.471
13.00	-0.003	0.013	0.026	0.054	-0.171	-0.373	-0.783	-1.409	-2.487
13.10	-0.003	0.013	0.025	0.040	-0.194	-0.408	-0.820	-1.439	-2.504
13.20	-0.003	0.013	0.025	0.025	-0.218	-0.444	-0.857	-1.471	-2.522

RESIDUARY STABILITY LEVER MS AS A FUNCTION OF DRAUGHT AND HEELING ANGLE
 INITIAL TRIM: 2.00 M UNIT: m

INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	-0.014	-0.251	-0.593	-3.034	-7.002	-11.157	-15.119	-18.559	-22.532
2.60	-0.011	-0.195	-0.484	-2.723	-6.464	-10.407	-14.178	-17.457	-21.337
2.70	-0.009	-0.151	-0.393	-2.445	-5.972	-9.720	-13.313	-16.445	-20.239
2.80	-0.007	-0.116	-0.316	-2.193	-5.521	-9.085	-12.512	-15.507	-19.223
2.90	-0.006	-0.089	-0.252	-1.965	-5.105	-8.498	-11.769	-14.636	-18.282
3.00	-0.005	-0.067	-0.198	-1.756	-4.722	-7.953	-11.076	-13.826	-17.407
3.10	-0.005	-0.050	-0.153	-1.567	-4.367	-7.446	-10.430	-13.073	-16.592
3.20	-0.004	-0.037	-0.117	-1.394	-4.040	-6.975	-9.827	-12.372	-15.834
3.30	-0.004	-0.027	-0.087	-1.237	-3.737	-6.536	-9.264	-11.719	-15.126
3.40	-0.004	-0.018	-0.062	-1.094	-3.454	-6.125	-8.734	-11.108	-14.462
3.50	-0.004	-0.010	-0.043	-0.962	-3.191	-5.740	-8.236	-10.536	-13.840
3.60	-0.004	-0.004	-0.027	-0.843	-2.946	-5.379	-7.768	-10.001	-13.257
3.70	-0.004	0.001	-0.014	-0.734	-2.718	-5.041	-7.327	-9.501	-12.709
3.80	-0.004	0.005	-0.003	-0.634	-2.506	-4.724	-6.912	-9.032	-12.194
3.90	-0.005	0.009	0.006	-0.544	-2.307	-4.425	-6.520	-8.592	-11.708
4.00	-0.005	0.012	0.013	-0.461	-2.121	-4.144	-6.150	-8.177	-11.250
4.10	-0.005	0.014	0.019	-0.386	-1.947	-3.878	-5.800	-7.787	-10.818
4.20	-0.006	0.016	0.024	-0.318	-1.784	-3.628	-5.470	-7.421	-10.410
4.30	-0.006	0.017	0.028	-0.256	-1.631	-3.391	-5.158	-7.075	-10.021
4.40	-0.006	0.018	0.032	-0.200	-1.487	-3.167	-4.864	-6.748	-9.648
4.50	-0.006	0.020	0.035	-0.148	-1.350	-2.953	-4.584	-6.438	-9.291
4.60	-0.006	0.021	0.038	-0.102	-1.222	-2.750	-4.322	-6.145	-8.948
4.70	-0.006	0.022	0.040	-0.060	-1.102	-2.559	-4.074	-5.869	-8.619
4.80	-0.006	0.022	0.041	-0.023	-0.990	-2.377	-3.841	-5.608	-8.305
4.90	-0.006	0.023	0.043	0.010	-0.883	-2.203	-3.621	-5.360	-8.005
5.00	-0.006	0.023	0.044	0.040	-0.783	-2.038	-3.412	-5.125	-7.719
5.10	-0.005	0.024	0.045	0.067	-0.688	-1.881	-3.216	-4.901	-7.445
5.20	-0.005	0.025	0.046	0.090	-0.598	-1.731	-3.030	-4.690	-7.183
5.30	-0.004	0.025	0.046	0.110	-0.514	-1.589	-2.855	-4.490	-6.935
5.40	-0.004	0.025	0.047	0.127	-0.435	-1.453	-2.689	-4.300	-6.698
5.50	-0.009	0.015	0.035	0.122	-0.390	-1.361	-2.578	-4.171	-6.530
5.60	-0.009	0.015	0.035	0.135	-0.320	-1.237	-2.431	-4.000	-6.315
5.70	-0.009	0.016	0.035	0.145	-0.253	-1.119	-2.292	-3.838	-6.110
5.80	-0.008	0.016	0.036	0.154	-0.191	-1.006	-2.160	-3.685	-5.914
5.90	-0.008	0.016	0.036	0.162	-0.132	-0.898	-2.036	-3.537	-5.727
6.00	-0.008	0.016	0.036	0.168	-0.077	-0.796	-1.919	-3.397	-5.549
6.10	-0.008	0.016	0.036	0.173	-0.025	-0.699	-1.808	-3.263	-5.379
6.20	-0.008	0.016	0.036	0.177	0.024	-0.608	-1.704	-3.134	-5.218
6.30	-0.008	0.016	0.035	0.181	0.070	-0.522	-1.606	-3.011	-5.064
6.40	-0.007	0.016	0.035	0.184	0.113	-0.442	-1.514	-2.893	-4.917
6.50	-0.007	0.016	0.035	0.186	0.153	-0.367	-1.427	-2.780	-4.777
6.60	-0.007	0.016	0.035	0.188	0.192	-0.296	-1.344	-2.670	-4.643
6.70	-0.007	0.016	0.035	0.189	0.228	-0.230	-1.266	-2.565	-4.514
6.80	-0.007	0.016	0.035	0.190	0.261	-0.168	-1.193	-2.464	-4.392
6.90	-0.007	0.016	0.035	0.191	0.292	-0.111	-1.125	-2.367	-4.276
7.00	-0.007	0.016	0.035	0.191	0.321	-0.057	-1.060	-2.274	-4.165
7.10	-0.007	0.016	0.035	0.191	0.349	-0.008	-1.000	-2.185	-4.059
7.20	-0.006	0.016	0.034	0.191	0.374	0.038	-0.943	-2.101	-3.958
7.30	-0.006	0.016	0.034	0.190	0.398	0.081	-0.889	-2.020	-3.861
7.40	-0.006	0.016	0.034	0.190	0.420	0.120	-0.837	-1.944	-3.769
7.50	-0.006	0.016	0.034	0.189	0.440	0.156	-0.788	-1.872	-3.681
7.60	-0.006	0.016	0.034	0.189	0.459	0.188	-0.742	-1.803	-3.597
7.70	-0.006	0.016	0.034	0.188	0.476	0.218	-0.698	-1.738	-3.518

Carl Bro a/s - DMC
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	-0.005	0.016	0.034	0.187	0.491	0.244	-0.656	-1.678	-3.442
7.90	-0.005	0.016	0.034	0.186	0.505	0.267	-0.617	-1.622	-3.371
8.00	-0.005	0.016	0.033	0.185	0.518	0.288	-0.580	-1.569	-3.304
8.10	-0.005	0.016	0.033	0.183	0.529	0.306	-0.545	-1.519	-3.240
8.20	-0.005	0.016	0.033	0.182	0.539	0.321	-0.512	-1.472	-3.179
8.30	-0.005	0.015	0.032	0.181	0.548	0.334	-0.481	-1.429	-3.122
8.40	-0.005	0.015	0.032	0.179	0.555	0.345	-0.452	-1.388	-3.067
8.50	-0.005	0.015	0.032	0.178	0.562	0.353	-0.424	-1.350	-3.016
8.60	-0.005	0.015	0.032	0.177	0.567	0.360	-0.398	-1.315	-2.967
8.70	-0.005	0.015	0.031	0.175	0.570	0.364	-0.374	-1.283	-2.921
8.80	-0.005	0.015	0.031	0.174	0.571	0.366	-0.351	-1.253	-2.877
8.90	-0.005	0.014	0.030	0.173	0.570	0.367	-0.330	-1.225	-2.837
9.00	-0.005	0.014	0.030	0.171	0.568	0.365	-0.311	-1.200	-2.798
9.10	-0.005	0.014	0.030	0.170	0.565	0.363	-0.293	-1.177	-2.762
9.20	-0.005	0.014	0.030	0.169	0.560	0.360	-0.278	-1.156	-2.728
9.30	-0.005	0.014	0.029	0.168	0.553	0.355	-0.265	-1.137	-2.696
9.40	-0.004	0.014	0.029	0.167	0.546	0.350	-0.254	-1.119	-2.666
9.50	-0.004	0.014	0.029	0.166	0.537	0.344	-0.245	-1.104	-2.638
9.60	-0.004	0.013	0.029	0.165	0.526	0.337	-0.237	-1.091	-2.612
9.70	-0.004	0.013	0.028	0.164	0.515	0.328	-0.231	-1.080	-2.587
9.80	-0.004	0.013	0.028	0.163	0.502	0.319	-0.228	-1.070	-2.565
9.90	-0.004	0.013	0.028	0.162	0.489	0.309	-0.225	-1.062	-2.544
10.00	-0.004	0.013	0.028	0.161	0.474	0.298	-0.225	-1.055	-2.524
10.10	-0.004	0.013	0.028	0.160	0.459	0.287	-0.226	-1.050	-2.507
10.20	-0.004	0.013	0.028	0.159	0.442	0.274	-0.228	-1.047	-2.490
10.30	-0.004	0.013	0.028	0.158	0.425	0.261	-0.233	-1.045	-2.475
10.40	-0.004	0.013	0.028	0.157	0.406	0.247	-0.238	-1.044	-2.462
10.50	-0.004	0.013	0.028	0.156	0.387	0.232	-0.246	-1.045	-2.450
10.60	-0.004	0.013	0.027	0.155	0.367	0.216	-0.254	-1.047	-2.440
10.70	-0.004	0.013	0.027	0.154	0.346	0.200	-0.264	-1.051	-2.430
10.80	-0.004	0.013	0.027	0.153	0.325	0.183	-0.276	-1.055	-2.423
10.90	-0.004	0.013	0.027	0.153	0.303	0.166	-0.289	-1.061	-2.416
11.00	-0.004	0.013	0.027	0.152	0.281	0.147	-0.303	-1.068	-2.410
11.10	-0.004	0.013	0.027	0.151	0.258	0.129	-0.318	-1.077	-2.406
11.20	-0.003	0.013	0.027	0.150	0.234	0.109	-0.335	-1.086	-2.403
11.30	-0.003	0.013	0.027	0.149	0.211	0.088	-0.353	-1.097	-2.401
11.40	-0.003	0.013	0.027	0.148	0.187	0.066	-0.372	-1.109	-2.400
11.50	-0.003	0.013	0.027	0.147	0.163	0.043	-0.392	-1.122	-2.400
11.60	-0.003	0.013	0.027	0.145	0.140	0.019	-0.413	-1.136	-2.401
11.70	-0.003	0.014	0.027	0.143	0.116	-0.005	-0.435	-1.151	-2.403
11.80	-0.003	0.014	0.027	0.140	0.092	-0.031	-0.459	-1.167	-2.407
11.90	-0.003	0.014	0.027	0.136	0.068	-0.058	-0.483	-1.184	-2.411
12.00	-0.003	0.014	0.027	0.132	0.044	-0.086	-0.508	-1.202	-2.416
12.10	-0.003	0.014	0.027	0.127	0.021	-0.114	-0.535	-1.222	-2.422
12.20	-0.003	0.014	0.027	0.121	-0.003	-0.143	-0.562	-1.242	-2.430
12.30	-0.003	0.014	0.027	0.114	-0.027	-0.174	-0.591	-1.265	-2.439
12.40	-0.003	0.014	0.027	0.106	-0.051	-0.205	-0.621	-1.288	-2.449
12.50	-0.003	0.013	0.026	0.097	-0.076	-0.238	-0.653	-1.313	-2.461
12.60	-0.003	0.013	0.026	0.087	-0.100	-0.271	-0.685	-1.339	-2.473
12.70	-0.003	0.013	0.025	0.075	-0.124	-0.305	-0.718	-1.366	-2.487
12.80	-0.003	0.012	0.025	0.063	-0.149	-0.339	-0.752	-1.394	-2.501
12.90	-0.003	0.012	0.024	0.051	-0.173	-0.374	-0.787	-1.423	-2.516
13.00	-0.003	0.012	0.024	0.037	-0.197	-0.409	-0.823	-1.452	-2.532
13.10	-0.003	0.011	0.023	0.023	-0.221	-0.444	-0.860	-1.482	-2.548
13.20	-0.003	0.011	0.023	0.007	-0.245	-0.480	-0.897	-1.513	-2.565

RESIDUARY STABILITY LEVER MS AS A FUNCTION OF DRAUGHT AND HEELING ANGLE
 INITIAL TRIM: 3.00 M UNIT: m

INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	-0.022	-0.347	-0.726	-3.266	-7.328	-11.522	-15.497	-18.973	-23.038
2.60	-0.018	-0.275	-0.601	-2.934	-6.761	-10.752	-14.533	-17.855	-21.813
2.70	-0.014	-0.217	-0.496	-2.636	-6.247	-10.041	-13.646	-16.823	-20.685
2.80	-0.012	-0.170	-0.406	-2.368	-5.777	-9.388	-12.827	-15.870	-19.645
2.90	-0.010	-0.132	-0.330	-2.125	-5.344	-8.784	-12.068	-14.986	-18.682
3.00	-0.009	-0.101	-0.265	-1.905	-4.946	-8.224	-11.362	-14.165	-17.790
3.10	-0.008	-0.077	-0.211	-1.704	-4.577	-7.703	-10.703	-13.399	-16.960
3.20	-0.007	-0.058	-0.165	-1.521	-4.237	-7.220	-10.089	-12.686	-16.187
3.30	-0.007	-0.042	-0.127	-1.354	-3.921	-6.768	-9.514	-12.020	-15.464
3.40	-0.007	-0.030	-0.095	-1.201	-3.628	-6.345	-8.974	-11.398	-14.787
3.50	-0.007	-0.020	-0.069	-1.062	-3.355	-5.951	-8.468	-10.816	-14.153
3.60	-0.007	-0.012	-0.048	-0.935	-3.102	-5.581	-7.992	-10.271	-13.558
3.70	-0.007	-0.005	-0.030	-0.819	-2.865	-5.233	-7.544	-9.760	-12.998
3.80	-0.007	0.000	-0.016	-0.713	-2.643	-4.906	-7.122	-9.279	-12.471
3.90	-0.007	0.005	-0.004	-0.616	-2.436	-4.598	-6.722	-8.828	-11.974
4.00	-0.007	0.009	0.006	-0.527	-2.242	-4.307	-6.346	-8.404	-11.505
4.10	-0.007	0.012	0.014	-0.446	-2.061	-4.034	-5.991	-8.005	-11.062
4.20	-0.008	0.015	0.020	-0.373	-1.891	-3.776	-5.656	-7.630	-10.644
4.30	-0.007	0.017	0.025	-0.306	-1.732	-3.532	-5.339	-7.276	-10.246
4.40	-0.007	0.019	0.030	-0.246	-1.582	-3.302	-5.040	-6.942	-9.867
4.50	-0.007	0.020	0.034	-0.191	-1.442	-3.083	-4.757	-6.627	-9.505
4.60	-0.007	0.021	0.036	-0.141	-1.310	-2.877	-4.491	-6.330	-9.158
4.70	-0.006	0.022	0.039	-0.097	-1.186	-2.681	-4.239	-6.050	-8.827
4.80	-0.006	0.022	0.041	-0.056	-1.069	-2.495	-4.001	-5.785	-8.509
4.90	-0.006	0.023	0.042	-0.020	-0.958	-2.317	-3.775	-5.532	-8.205
5.00	-0.005	0.024	0.044	0.013	-0.854	-2.148	-3.562	-5.293	-7.914
5.10	-0.007	0.021	0.041	0.035	-0.766	-2.000	-3.377	-5.083	-7.657
5.20	-0.010	0.014	0.032	0.045	-0.696	-1.875	-3.221	-4.908	-7.436
5.30	-0.010	0.014	0.033	0.067	-0.608	-1.729	-3.042	-4.703	-7.184
5.40	-0.010	0.014	0.034	0.087	-0.526	-1.590	-2.872	-4.509	-6.943
5.50	-0.009	0.015	0.034	0.105	-0.448	-1.456	-2.711	-4.324	-6.712
5.60	-0.009	0.015	0.035	0.120	-0.374	-1.329	-2.559	-4.149	-6.492
5.70	-0.009	0.015	0.035	0.132	-0.305	-1.208	-2.416	-3.983	-6.283
5.80	-0.009	0.015	0.035	0.143	-0.240	-1.093	-2.281	-3.826	-6.083
5.90	-0.008	0.016	0.035	0.152	-0.178	-0.984	-2.154	-3.676	-5.893
6.00	-0.008	0.016	0.035	0.160	-0.121	-0.880	-2.033	-3.533	-5.711
6.10	-0.008	0.016	0.035	0.166	-0.066	-0.781	-1.920	-3.396	-5.538
6.20	-0.008	0.016	0.035	0.171	-0.015	-0.688	-1.813	-3.265	-5.373
6.30	-0.008	0.016	0.035	0.176	0.033	-0.600	-1.712	-3.140	-5.216
6.40	-0.007	0.016	0.035	0.179	0.078	-0.517	-1.617	-3.020	-5.065
6.50	-0.007	0.016	0.035	0.182	0.121	-0.439	-1.528	-2.904	-4.922
6.60	-0.007	0.016	0.035	0.184	0.161	-0.367	-1.444	-2.793	-4.786
6.70	-0.007	0.016	0.035	0.186	0.198	-0.299	-1.364	-2.687	-4.656
6.80	-0.007	0.016	0.035	0.187	0.232	-0.236	-1.290	-2.585	-4.532
6.90	-0.007	0.016	0.034	0.188	0.265	-0.177	-1.220	-2.487	-4.414
7.00	-0.007	0.016	0.034	0.188	0.295	-0.121	-1.153	-2.392	-4.300
7.10	-0.007	0.016	0.034	0.189	0.324	-0.070	-1.090	-2.302	-4.192
7.20	-0.006	0.016	0.034	0.189	0.351	-0.022	-1.031	-2.216	-4.088
7.30	-0.006	0.016	0.034	0.189	0.375	0.022	-0.975	-2.134	-3.990
7.40	-0.006	0.016	0.034	0.188	0.398	0.062	-0.923	-2.057	-3.897
7.50	-0.006	0.016	0.034	0.187	0.419	0.099	-0.873	-1.984	-3.807
7.60	-0.006	0.016	0.033	0.187	0.439	0.133	-0.826	-1.914	-3.722
7.70	-0.006	0.015	0.033	0.186	0.456	0.163	-0.781	-1.849	-3.642

Carl Bro a/s - DMC
NAPA/D/STAB/040506
P40357500/CXS4204
P40357500

DIAMOND 53
STABILITY MS DATA
TRIM = 3

DATE 2006-03-28
TIME 09:22
USER HND
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	-0.006	0.015	0.033	0.185	0.473	0.191	-0.738	-1.786	-3.565
7.90	-0.006	0.015	0.033	0.184	0.487	0.215	-0.698	-1.728	-3.492
8.00	-0.005	0.015	0.033	0.183	0.501	0.237	-0.660	-1.673	-3.422
8.10	-0.005	0.015	0.032	0.182	0.513	0.256	-0.624	-1.622	-3.356
8.20	-0.005	0.015	0.032	0.180	0.523	0.273	-0.590	-1.573	-3.293
8.30	-0.005	0.015	0.032	0.179	0.532	0.287	-0.557	-1.528	-3.234
8.40	-0.005	0.015	0.032	0.178	0.539	0.298	-0.526	-1.485	-3.177
8.50	-0.005	0.015	0.031	0.177	0.545	0.308	-0.498	-1.446	-3.124
8.60	-0.005	0.014	0.031	0.176	0.549	0.315	-0.471	-1.409	-3.074
8.70	-0.005	0.014	0.031	0.174	0.551	0.320	-0.445	-1.375	-3.026
8.80	-0.005	0.014	0.030	0.173	0.553	0.324	-0.421	-1.343	-2.981
8.90	-0.005	0.014	0.030	0.172	0.552	0.326	-0.399	-1.314	-2.938
9.00	-0.005	0.014	0.030	0.171	0.550	0.326	-0.379	-1.286	-2.897
9.10	-0.005	0.014	0.030	0.170	0.547	0.324	-0.361	-1.262	-2.859
9.20	-0.005	0.014	0.030	0.169	0.542	0.321	-0.345	-1.239	-2.824
9.30	-0.004	0.014	0.030	0.168	0.535	0.317	-0.331	-1.219	-2.790
9.40	-0.004	0.014	0.029	0.167	0.527	0.311	-0.320	-1.201	-2.759
9.50	-0.004	0.014	0.029	0.165	0.517	0.304	-0.310	-1.185	-2.730
9.60	-0.004	0.014	0.029	0.164	0.507	0.297	-0.302	-1.170	-2.703
9.70	-0.004	0.013	0.029	0.163	0.495	0.288	-0.295	-1.158	-2.677
9.80	-0.004	0.013	0.028	0.162	0.482	0.279	-0.291	-1.147	-2.653
9.90	-0.004	0.013	0.028	0.161	0.468	0.268	-0.288	-1.137	-2.631
10.00	-0.004	0.013	0.028	0.160	0.453	0.257	-0.287	-1.129	-2.610
10.10	-0.004	0.013	0.028	0.158	0.437	0.245	-0.287	-1.123	-2.591
10.20	-0.004	0.013	0.028	0.157	0.420	0.233	-0.289	-1.118	-2.573
10.30	-0.004	0.013	0.028	0.156	0.402	0.219	-0.293	-1.115	-2.557
10.40	-0.004	0.013	0.028	0.155	0.383	0.205	-0.298	-1.114	-2.542
10.50	-0.004	0.013	0.028	0.154	0.364	0.190	-0.305	-1.113	-2.529
10.60	-0.004	0.013	0.028	0.153	0.344	0.174	-0.314	-1.114	-2.518
10.70	-0.004	0.013	0.027	0.152	0.323	0.158	-0.323	-1.117	-2.507
10.80	-0.004	0.013	0.027	0.151	0.301	0.141	-0.335	-1.121	-2.498
10.90	-0.004	0.013	0.027	0.150	0.279	0.123	-0.347	-1.126	-2.491
11.00	-0.004	0.013	0.027	0.148	0.257	0.104	-0.361	-1.132	-2.484
11.10	-0.004	0.013	0.027	0.147	0.234	0.084	-0.376	-1.140	-2.479
11.20	-0.003	0.013	0.027	0.145	0.211	0.064	-0.393	-1.149	-2.475
11.30	-0.003	0.013	0.027	0.143	0.187	0.042	-0.410	-1.160	-2.472
11.40	-0.003	0.013	0.027	0.140	0.163	0.020	-0.429	-1.171	-2.470
11.50	-0.003	0.013	0.027	0.137	0.139	-0.004	-0.449	-1.184	-2.470
11.60	-0.003	0.013	0.026	0.134	0.115	-0.028	-0.470	-1.197	-2.470
11.70	-0.003	0.013	0.026	0.130	0.091	-0.053	-0.492	-1.212	-2.471
11.80	-0.003	0.013	0.026	0.126	0.066	-0.080	-0.515	-1.228	-2.474
11.90	-0.003	0.013	0.026	0.121	0.042	-0.107	-0.539	-1.245	-2.477
12.00	-0.003	0.013	0.026	0.115	0.018	-0.134	-0.564	-1.263	-2.482
12.10	-0.003	0.013	0.025	0.108	-0.007	-0.163	-0.590	-1.283	-2.487
12.20	-0.003	0.013	0.025	0.101	-0.031	-0.192	-0.618	-1.303	-2.494
12.30	-0.003	0.013	0.025	0.093	-0.056	-0.222	-0.646	-1.324	-2.501
12.40	-0.003	0.012	0.024	0.084	-0.080	-0.253	-0.675	-1.347	-2.510
12.50	-0.003	0.012	0.024	0.074	-0.104	-0.285	-0.705	-1.370	-2.519
12.60	-0.003	0.012	0.024	0.064	-0.128	-0.317	-0.737	-1.395	-2.529
12.70	-0.003	0.012	0.023	0.053	-0.153	-0.350	-0.769	-1.420	-2.541
12.80	-0.003	0.011	0.023	0.040	-0.177	-0.383	-0.803	-1.447	-2.554
12.90	-0.003	0.011	0.022	0.027	-0.202	-0.418	-0.837	-1.476	-2.568
13.00	-0.003	0.010	0.021	0.013	-0.227	-0.453	-0.873	-1.505	-2.584
13.10	-0.003	0.010	0.021	-0.002	-0.251	-0.489	-0.910	-1.535	-2.600
13.20	-0.003	0.009	0.020	-0.017	-0.276	-0.525	-0.947	-1.566	-2.617

KN AS A FUNCTION OF DRAUGHT AND HEELING ANGLE

INITIAL TRIM: -1.00 M

UNIT: m

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INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	2.848	5.558	6.447	8.765	10.323	11.091	11.395	11.456	10.952
2.60	2.757	5.404	6.301	8.656	10.252	11.073	11.419	11.517	10.989
2.70	2.672	5.257	6.158	8.548	10.185	11.049	11.436	11.568	11.021
2.80	2.594	5.116	6.019	8.443	10.120	11.025	11.453	11.615	11.050
2.90	2.520	4.983	5.884	8.341	10.057	11.002	11.470	11.659	11.075
3.00	2.452	4.857	5.752	8.241	9.994	10.979	11.486	11.699	11.098
3.10	2.387	4.738	5.624	8.144	9.933	10.956	11.503	11.735	11.118
3.20	2.327	4.626	5.500	8.049	9.873	10.933	11.519	11.767	11.136
3.30	2.271	4.520	5.382	7.956	9.814	10.911	11.535	11.796	11.151
3.40	2.217	4.419	5.268	7.865	9.757	10.889	11.551	11.821	11.165
3.50	2.167	4.323	5.160	7.776	9.700	10.867	11.566	11.843	11.178
3.60	2.120	4.233	5.056	7.689	9.645	10.846	11.581	11.862	11.189
3.70	2.076	4.147	4.958	7.604	9.592	10.825	11.595	11.878	11.200
3.80	2.033	4.065	4.864	7.521	9.539	10.805	11.607	11.892	11.211
3.90	1.993	3.987	4.774	7.439	9.487	10.784	11.618	11.904	11.222
4.00	1.956	3.914	4.689	7.359	9.437	10.764	11.628	11.913	11.233
4.10	1.920	3.844	4.607	7.281	9.387	10.745	11.636	11.920	11.245
4.20	1.886	3.777	4.529	7.204	9.338	10.726	11.642	11.925	11.257
4.30	1.854	3.713	4.455	7.128	9.291	10.707	11.646	11.928	11.269
4.40	1.823	3.653	4.384	7.054	9.244	10.688	11.649	11.929	11.281
4.50	1.793	3.595	4.317	6.981	9.198	10.670	11.650	11.929	11.293
4.60	1.766	3.540	4.252	6.909	9.153	10.653	11.649	11.927	11.305
4.70	1.739	3.488	4.191	6.838	9.109	10.635	11.646	11.924	11.316
4.80	1.714	3.438	4.132	6.769	9.065	10.618	11.641	11.919	11.327
4.90	1.689	3.391	4.075	6.701	9.023	10.602	11.635	11.913	11.339
5.00	1.666	3.346	4.022	6.634	8.981	10.586	11.628	11.906	11.349
5.10	1.644	3.303	3.970	6.568	8.940	10.570	11.619	11.898	11.360
5.20	1.623	3.261	3.921	6.503	8.899	10.555	11.608	11.888	11.369
5.30	1.603	3.222	3.874	6.440	8.859	10.540	11.596	11.878	11.379
5.40	1.584	3.184	3.829	6.377	8.820	10.525	11.583	11.868	11.387
5.50	1.565	3.148	3.786	6.316	8.782	10.510	11.569	11.857	11.395
5.60	1.547	3.114	3.745	6.257	8.744	10.494	11.554	11.845	11.403
5.70	1.531	3.081	3.705	6.199	8.707	10.479	11.538	11.834	11.409
5.80	1.515	3.049	3.668	6.143	8.670	10.463	11.521	11.822	11.414
5.90	1.500	3.019	3.631	6.088	8.634	10.447	11.503	11.811	11.419
6.00	1.485	2.990	3.597	6.035	8.599	10.430	11.485	11.799	11.423
6.10	1.471	2.962	3.563	5.984	8.564	10.412	11.465	11.788	11.426
6.20	1.458	2.936	3.531	5.934	8.530	10.394	11.445	11.777	11.428
6.30	1.445	2.910	3.500	5.886	8.496	10.375	11.423	11.767	11.429
6.40	1.433	2.885	3.471	5.840	8.463	10.356	11.401	11.756	11.430
6.50	1.421	2.862	3.443	5.795	8.431	10.336	11.379	11.746	11.430
6.60	1.410	2.839	3.415	5.751	8.398	10.315	11.356	11.736	11.429
6.70	1.399	2.817	3.389	5.709	8.367	10.293	11.333	11.726	11.428
6.80	1.389	2.797	3.364	5.668	8.336	10.271	11.309	11.716	11.427
6.90	1.379	2.777	3.340	5.629	8.305	10.248	11.285	11.706	11.424
7.00	1.369	2.757	3.317	5.591	8.275	10.224	11.261	11.696	11.421
7.10	1.360	2.739	3.295	5.554	8.245	10.200	11.237	11.685	11.418
7.20	1.351	2.721	3.273	5.519	8.216	10.175	11.213	11.674	11.414
7.30	1.343	2.704	3.253	5.485	8.187	10.149	11.188	11.663	11.410
7.40	1.335	2.688	3.233	5.452	8.159	10.123	11.164	11.651	11.405
7.50	1.327	2.672	3.214	5.420	8.131	10.097	11.140	11.639	11.399
7.60	1.320	2.657	3.196	5.389	8.103	10.069	11.116	11.627	11.394
7.70	1.313	2.642	3.178	5.360	8.076	10.041	11.093	11.614	11.387

Carl Bro a/s - DMC
NAPA/D/STAB/040506
P40357500/CXS4204
P40357500

DIAMOND 53
STABILITY KN DATA
TRIM = -1

DATE 2006-03-30
TIME 08:21
USER JAN
Page 9-12

DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	1.306	2.628	3.162	5.332	8.049	10.013	11.070	11.601	11.381
7.90	1.299	2.615	3.145	5.305	8.023	9.984	11.047	11.587	11.374
8.00	1.293	2.602	3.130	5.279	7.996	9.955	11.024	11.573	11.366
8.10	1.287	2.590	3.115	5.254	7.970	9.926	11.002	11.558	11.359
8.20	1.281	2.578	3.101	5.230	7.944	9.896	10.980	11.542	11.351
8.30	1.276	2.567	3.087	5.206	7.918	9.866	10.959	11.526	11.342
8.40	1.270	2.556	3.074	5.184	7.892	9.836	10.938	11.509	11.334
8.50	1.265	2.546	3.062	5.163	7.866	9.805	10.917	11.493	11.325
8.60	1.260	2.536	3.050	5.142	7.840	9.774	10.896	11.475	11.315
8.70	1.256	2.526	3.038	5.123	7.814	9.743	10.875	11.457	11.306
8.80	1.251	2.517	3.027	5.104	7.788	9.712	10.854	11.439	11.296
8.90	1.247	2.508	3.017	5.086	7.761	9.681	10.833	11.421	11.286
9.00	1.243	2.500	3.006	5.069	7.735	9.650	10.811	11.402	11.276
9.10	1.239	2.492	2.997	5.052	7.708	9.618	10.790	11.382	11.265
9.20	1.235	2.484	2.988	5.037	7.681	9.587	10.769	11.363	11.254
9.30	1.232	2.477	2.979	5.021	7.654	9.556	10.747	11.343	11.243
9.40	1.228	2.470	2.970	5.007	7.627	9.525	10.725	11.322	11.232
9.50	1.225	2.464	2.962	4.993	7.600	9.494	10.703	11.302	11.220
9.60	1.222	2.457	2.955	4.980	7.572	9.463	10.680	11.281	11.209
9.70	1.219	2.451	2.948	4.968	7.544	9.432	10.657	11.260	11.197
9.80	1.216	2.446	2.941	4.956	7.517	9.401	10.634	11.238	11.185
9.90	1.214	2.440	2.934	4.945	7.489	9.371	10.611	11.217	11.173
10.00	1.211	2.435	2.928	4.934	7.460	9.342	10.587	11.195	11.161
10.10	1.209	2.430	2.922	4.924	7.432	9.312	10.562	11.173	11.149
10.20	1.207	2.426	2.917	4.914	7.404	9.283	10.538	11.151	11.137
10.30	1.205	2.421	2.911	4.905	7.376	9.254	10.513	11.128	11.124
10.40	1.203	2.417	2.906	4.897	7.347	9.226	10.487	11.106	11.111
10.50	1.201	2.414	2.902	4.889	7.319	9.197	10.462	11.083	11.099
10.60	1.199	2.410	2.898	4.881	7.290	9.169	10.436	11.060	11.086
10.70	1.197	2.407	2.893	4.874	7.262	9.141	10.410	11.037	11.073
10.80	1.196	2.404	2.890	4.868	7.233	9.113	10.383	11.014	11.060
10.90	1.195	2.401	2.886	4.862	7.205	9.085	10.356	10.990	11.047
11.00	1.193	2.398	2.883	4.856	7.177	9.056	10.329	10.967	11.033
11.10	1.192	2.396	2.880	4.851	7.149	9.028	10.302	10.943	11.020
11.20	1.191	2.394	2.878	4.846	7.122	8.999	10.274	10.919	11.007
11.30	1.190	2.392	2.875	4.841	7.094	8.971	10.246	10.895	10.994
11.40	1.189	2.390	2.873	4.837	7.067	8.942	10.218	10.871	10.981
11.50	1.189	2.388	2.871	4.833	7.040	8.912	10.190	10.847	10.967
11.60	1.188	2.387	2.870	4.829	7.013	8.883	10.161	10.823	10.954
11.70	1.188	2.386	2.868	4.825	6.987	8.853	10.131	10.798	10.941
11.80	1.187	2.385	2.867	4.821	6.961	8.823	10.102	10.774	10.928
11.90	1.187	2.384	2.866	4.816	6.936	8.793	10.072	10.749	10.915
12.00	1.186	2.383	2.865	4.811	6.911	8.763	10.042	10.725	10.901
12.10	1.186	2.383	2.864	4.806	6.887	8.732	10.011	10.700	10.888
12.20	1.186	2.383	2.864	4.801	6.864	8.701	9.981	10.675	10.875
12.30	1.186	2.382	2.864	4.794	6.841	8.670	9.949	10.650	10.862
12.40	1.186	2.382	2.864	4.788	6.818	8.639	9.918	10.625	10.848
12.50	1.186	2.383	2.864	4.780	6.796	8.607	9.887	10.600	10.835
12.60	1.186	2.383	2.864	4.772	6.774	8.576	9.855	10.575	10.822
12.70	1.187	2.383	2.865	4.763	6.753	8.544	9.823	10.549	10.808
12.80	1.187	2.384	2.865	4.754	6.733	8.512	9.790	10.523	10.795
12.90	1.187	2.385	2.866	4.744	6.712	8.481	9.758	10.498	10.781
13.00	1.188	2.386	2.867	4.734	6.692	8.449	9.725	10.471	10.768
13.10	1.188	2.387	2.868	4.723	6.673	8.417	9.692	10.445	10.754
13.20	1.189	2.388	2.870	4.711	6.653	8.385	9.659	10.419	10.741

KN AS A FUNCTION OF DRAUGHT AND HEELING ANGLE

INITIAL TRIM: 0.00 M

UNIT: m

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INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	2.911	5.667	6.548	8.834	10.380	11.159	11.438	11.489	10.994
2.60	2.815	5.508	6.400	8.724	10.311	11.131	11.462	11.545	11.031
2.70	2.727	5.354	6.255	8.616	10.242	11.106	11.479	11.602	11.062
2.80	2.645	5.208	6.114	8.511	10.175	11.081	11.495	11.655	11.090
2.90	2.568	5.070	5.977	8.408	10.110	11.056	11.512	11.704	11.115
3.00	2.496	4.940	5.843	8.308	10.046	11.032	11.528	11.748	11.137
3.10	2.429	4.817	5.712	8.210	9.984	11.008	11.544	11.787	11.157
3.20	2.367	4.701	5.585	8.115	9.923	10.984	11.560	11.821	11.175
3.30	2.308	4.591	5.463	8.022	9.864	10.961	11.575	11.851	11.190
3.40	2.252	4.487	5.346	7.931	9.806	10.938	11.590	11.877	11.203
3.50	2.200	4.388	5.234	7.843	9.750	10.915	11.605	11.900	11.215
3.60	2.152	4.295	5.128	7.756	9.694	10.892	11.619	11.918	11.224
3.70	2.105	4.206	5.026	7.670	9.640	10.870	11.633	11.934	11.233
3.80	2.062	4.122	4.930	7.587	9.587	10.848	11.647	11.947	11.241
3.90	2.020	4.042	4.838	7.505	9.535	10.827	11.660	11.957	11.248
4.00	1.981	3.966	4.751	7.425	9.485	10.806	11.672	11.965	11.255
4.10	1.944	3.894	4.667	7.347	9.435	10.785	11.682	11.971	11.263
4.20	1.909	3.825	4.587	7.269	9.386	10.765	11.690	11.976	11.271
4.30	1.876	3.760	4.511	7.194	9.339	10.745	11.696	11.978	11.281
4.40	1.844	3.698	4.439	7.119	9.292	10.726	11.700	11.979	11.292
4.50	1.814	3.639	4.370	7.046	9.246	10.707	11.702	11.978	11.304
4.60	1.785	3.583	4.304	6.974	9.201	10.689	11.701	11.976	11.317
4.70	1.758	3.529	4.240	6.903	9.157	10.671	11.698	11.972	11.330
4.80	1.732	3.478	4.180	6.833	9.113	10.653	11.694	11.966	11.343
4.90	1.707	3.430	4.122	6.765	9.071	10.636	11.687	11.959	11.356
5.00	1.683	3.383	4.067	6.698	9.029	10.620	11.679	11.951	11.369
5.10	1.661	3.339	4.014	6.631	8.988	10.604	11.669	11.942	11.381
5.20	1.639	3.297	3.964	6.566	8.947	10.588	11.658	11.931	11.392
5.30	1.618	3.257	3.916	6.502	8.907	10.572	11.645	11.920	11.402
5.40	1.599	3.218	3.870	6.439	8.868	10.558	11.631	11.908	11.412
5.50	1.580	3.181	3.825	6.377	8.830	10.543	11.616	11.895	11.420
5.60	1.563	3.146	3.783	6.316	8.792	10.529	11.600	11.881	11.427
5.70	1.546	3.112	3.743	6.257	8.755	10.514	11.583	11.868	11.434
5.80	1.529	3.079	3.704	6.200	8.718	10.500	11.565	11.854	11.439
5.90	1.514	3.048	3.666	6.144	8.682	10.485	11.546	11.840	11.444
6.00	1.499	3.019	3.631	6.090	8.647	10.469	11.526	11.827	11.447
6.10	1.485	2.990	3.597	6.038	8.612	10.453	11.505	11.813	11.450
6.20	1.471	2.963	3.564	5.987	8.578	10.436	11.484	11.801	11.452
6.30	1.458	2.936	3.532	5.938	8.544	10.419	11.462	11.789	11.454
6.40	1.446	2.911	3.502	5.890	8.511	10.400	11.439	11.778	11.454
6.50	1.434	2.887	3.473	5.844	8.478	10.381	11.415	11.767	11.454
6.60	1.422	2.864	3.445	5.799	8.446	10.361	11.391	11.757	11.453
6.70	1.411	2.841	3.418	5.756	8.414	10.340	11.367	11.747	11.452
6.80	1.400	2.820	3.392	5.714	8.383	10.318	11.342	11.737	11.450
6.90	1.390	2.799	3.367	5.674	8.352	10.295	11.317	11.727	11.447
7.00	1.380	2.780	3.344	5.635	8.321	10.271	11.292	11.717	11.444
7.10	1.371	2.761	3.321	5.598	8.292	10.247	11.266	11.707	11.440
7.20	1.362	2.742	3.299	5.561	8.262	10.222	11.241	11.697	11.436
7.30	1.353	2.725	3.278	5.526	8.233	10.196	11.215	11.686	11.431
7.40	1.345	2.708	3.258	5.493	8.204	10.170	11.190	11.674	11.425
7.50	1.337	2.692	3.238	5.460	8.176	10.143	11.165	11.662	11.419
7.60	1.330	2.676	3.219	5.429	8.148	10.115	11.140	11.650	11.413
7.70	1.322	2.662	3.202	5.399	8.121	10.087	11.115	11.636	11.406

Carl Bro a/s - DMC
NAPA/D/STAB/040506
P40357500/CXS4204
P40357500

DIAMOND 53
STABILITY KN DATA
TRIM = 0

DATE 2006-03-28
TIME 09:24
USER HND
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	1.315	2.647	3.184	5.370	8.094	10.059	11.091	11.623	11.399
7.90	1.308	2.634	3.168	5.342	8.067	10.029	11.068	11.608	11.391
8.00	1.302	2.620	3.152	5.315	8.041	10.000	11.045	11.593	11.383
8.10	1.296	2.608	3.137	5.289	8.015	9.970	11.023	11.578	11.375
8.20	1.290	2.596	3.122	5.264	7.989	9.939	11.001	11.562	11.366
8.30	1.284	2.584	3.108	5.240	7.963	9.908	10.980	11.546	11.357
8.40	1.279	2.573	3.095	5.217	7.938	9.877	10.959	11.529	11.348
8.50	1.274	2.562	3.082	5.195	7.912	9.845	10.938	11.511	11.339
8.60	1.269	2.552	3.069	5.174	7.887	9.814	10.918	11.494	11.329
8.70	1.264	2.542	3.057	5.154	7.861	9.782	10.897	11.476	11.319
8.80	1.259	2.533	3.046	5.135	7.835	9.749	10.876	11.457	11.308
8.90	1.255	2.524	3.035	5.116	7.809	9.717	10.856	11.438	11.298
9.00	1.251	2.515	3.025	5.098	7.782	9.685	10.835	11.419	11.287
9.10	1.247	2.507	3.015	5.081	7.755	9.652	10.814	11.399	11.276
9.20	1.243	2.499	3.005	5.065	7.728	9.620	10.793	11.379	11.264
9.30	1.239	2.492	2.996	5.049	7.700	9.588	10.771	11.359	11.253
9.40	1.236	2.484	2.987	5.034	7.673	9.556	10.749	11.339	11.241
9.50	1.232	2.477	2.979	5.020	7.644	9.524	10.727	11.318	11.230
9.60	1.229	2.471	2.971	5.006	7.616	9.492	10.704	11.297	11.218
9.70	1.226	2.465	2.963	4.993	7.587	9.461	10.681	11.275	11.206
9.80	1.223	2.459	2.956	4.981	7.559	9.430	10.658	11.254	11.194
9.90	1.220	2.453	2.949	4.969	7.530	9.400	10.634	11.232	11.181
10.00	1.218	2.448	2.943	4.958	7.500	9.369	10.610	11.210	11.169
10.10	1.215	2.443	2.937	4.947	7.471	9.339	10.585	11.188	11.156
10.20	1.213	2.438	2.931	4.937	7.442	9.309	10.560	11.166	11.144
10.30	1.211	2.433	2.925	4.928	7.412	9.280	10.535	11.143	11.131
10.40	1.209	2.429	2.920	4.919	7.383	9.250	10.509	11.120	11.118
10.50	1.207	2.425	2.915	4.910	7.353	9.221	10.483	11.097	11.105
10.60	1.205	2.421	2.911	4.902	7.323	9.192	10.457	11.074	11.092
10.70	1.203	2.418	2.907	4.894	7.293	9.163	10.430	11.051	11.079
10.80	1.201	2.414	2.903	4.887	7.264	9.134	10.404	11.027	11.066
10.90	1.200	2.411	2.899	4.881	7.234	9.105	10.376	11.004	11.053
11.00	1.199	2.408	2.895	4.874	7.204	9.077	10.349	10.980	11.040
11.10	1.197	2.406	2.892	4.869	7.174	9.048	10.321	10.956	11.027
11.20	1.196	2.403	2.889	4.863	7.145	9.019	10.293	10.933	11.014
11.30	1.195	2.401	2.887	4.858	7.116	8.990	10.264	10.909	11.001
11.40	1.194	2.399	2.884	4.854	7.087	8.961	10.236	10.885	10.988
11.50	1.193	2.397	2.882	4.849	7.058	8.931	10.207	10.861	10.975
11.60	1.193	2.396	2.880	4.846	7.030	8.901	10.177	10.837	10.961
11.70	1.192	2.394	2.878	4.842	7.003	8.871	10.147	10.812	10.948
11.80	1.191	2.393	2.877	4.838	6.976	8.840	10.117	10.788	10.935
11.90	1.191	2.392	2.876	4.834	6.950	8.809	10.087	10.764	10.922
12.00	1.190	2.391	2.875	4.829	6.924	8.778	10.056	10.739	10.909
12.10	1.190	2.391	2.874	4.824	6.899	8.746	10.025	10.714	10.896
12.20	1.190	2.390	2.873	4.818	6.875	8.714	9.994	10.689	10.883
12.30	1.190	2.390	2.873	4.811	6.851	8.683	9.962	10.664	10.869
12.40	1.190	2.390	2.872	4.804	6.828	8.650	9.930	10.639	10.856
12.50	1.190	2.390	2.872	4.796	6.805	8.618	9.898	10.613	10.843
12.60	1.190	2.390	2.872	4.787	6.782	8.586	9.866	10.587	10.830
12.70	1.190	2.390	2.872	4.778	6.760	8.553	9.834	10.561	10.816
12.80	1.190	2.390	2.873	4.768	6.738	8.521	9.801	10.535	10.803
12.90	1.190	2.391	2.873	4.757	6.717	8.488	9.768	10.509	10.789
13.00	1.191	2.392	2.874	4.746	6.696	8.456	9.735	10.482	10.776
13.10	1.191	2.392	2.875	4.734	6.675	8.423	9.702	10.455	10.763
13.20	1.192	2.393	2.876	4.722	6.655	8.390	9.668	10.428	10.749

KN AS A FUNCTION OF DRAUGHT AND HEELING ANGLE

INITIAL TRIM: 1.00 M

UNIT: m

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INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	2.969	5.748	6.616	8.870	10.406	11.197	11.492	11.522	11.041
2.60	2.870	5.590	6.469	8.764	10.340	11.172	11.511	11.587	11.076
2.70	2.778	5.437	6.325	8.657	10.273	11.147	11.528	11.645	11.106
2.80	2.692	5.289	6.185	8.554	10.207	11.121	11.544	11.700	11.132
2.90	2.613	5.148	6.048	8.453	10.143	11.096	11.560	11.749	11.156
3.00	2.538	5.015	5.914	8.354	10.080	11.071	11.575	11.795	11.177
3.10	2.469	4.889	5.784	8.258	10.019	11.047	11.590	11.835	11.196
3.20	2.404	4.770	5.658	8.164	9.959	11.023	11.605	11.870	11.213
3.30	2.343	4.657	5.535	8.073	9.901	10.999	11.619	11.900	11.227
3.40	2.286	4.551	5.417	7.983	9.843	10.976	11.633	11.927	11.240
3.50	2.233	4.450	5.303	7.895	9.788	10.952	11.647	11.949	11.251
3.60	2.182	4.354	5.195	7.809	9.733	10.929	11.660	11.968	11.260
3.70	2.134	4.263	5.092	7.725	9.680	10.907	11.673	11.984	11.267
3.80	2.089	4.177	4.994	7.643	9.627	10.885	11.686	11.997	11.274
3.90	2.047	4.095	4.901	7.562	9.576	10.863	11.698	12.007	11.279
4.00	2.007	4.018	4.812	7.482	9.526	10.842	11.711	12.014	11.283
4.10	1.969	3.944	4.726	7.404	9.477	10.821	11.722	12.019	11.288
4.20	1.932	3.874	4.645	7.327	9.429	10.800	11.731	12.022	11.293
4.30	1.898	3.807	4.568	7.252	9.381	10.781	11.738	12.024	11.299
4.40	1.866	3.744	4.494	7.178	9.335	10.761	11.743	12.023	11.308
4.50	1.835	3.683	4.423	7.105	9.289	10.742	11.745	12.021	11.318
4.60	1.805	3.626	4.356	7.033	9.245	10.724	11.744	12.018	11.330
4.70	1.777	3.571	4.291	6.963	9.201	10.706	11.742	12.013	11.344
4.80	1.750	3.519	4.229	6.893	9.158	10.688	11.737	12.006	11.359
4.90	1.725	3.470	4.170	6.825	9.115	10.671	11.730	11.999	11.373
5.00	1.701	3.422	4.114	6.757	9.074	10.654	11.722	11.990	11.387
5.10	1.678	3.377	4.060	6.691	9.033	10.637	11.712	11.980	11.401
5.20	1.656	3.334	4.008	6.625	8.993	10.621	11.700	11.968	11.412
5.30	1.636	3.292	3.958	6.561	8.953	10.606	11.687	11.956	11.423
5.40	1.616	3.253	3.911	6.498	8.915	10.591	11.672	11.943	11.433
5.50	1.597	3.215	3.866	6.435	8.876	10.576	11.656	11.929	11.441
5.60	1.579	3.179	3.822	6.374	8.839	10.561	11.639	11.914	11.449
5.70	1.562	3.144	3.781	6.315	8.802	10.547	11.621	11.898	11.455
5.80	1.545	3.111	3.741	6.257	8.765	10.534	11.602	11.883	11.460
5.90	1.529	3.079	3.703	6.200	8.730	10.520	11.582	11.867	11.465
6.00	1.514	3.048	3.666	6.145	8.694	10.506	11.561	11.852	11.468
6.10	1.499	3.019	3.631	6.092	8.660	10.491	11.540	11.838	11.471
6.20	1.485	2.991	3.597	6.040	8.625	10.475	11.517	11.824	11.473
6.30	1.472	2.964	3.565	5.990	8.592	10.459	11.495	11.811	11.474
6.40	1.459	2.938	3.534	5.941	8.558	10.441	11.471	11.798	11.475
6.50	1.447	2.913	3.504	5.894	8.526	10.422	11.447	11.786	11.474
6.60	1.435	2.889	3.475	5.849	8.493	10.402	11.423	11.775	11.473
6.70	1.424	2.866	3.448	5.805	8.462	10.381	11.397	11.765	11.471
6.80	1.413	2.844	3.421	5.762	8.430	10.360	11.372	11.755	11.469
6.90	1.402	2.823	3.396	5.721	8.400	10.337	11.346	11.745	11.466
7.00	1.392	2.803	3.372	5.681	8.369	10.314	11.319	11.735	11.462
7.10	1.383	2.784	3.348	5.643	8.339	10.289	11.292	11.725	11.458
7.20	1.373	2.765	3.326	5.606	8.310	10.264	11.266	11.715	11.453
7.30	1.364	2.747	3.304	5.570	8.280	10.239	11.239	11.704	11.448
7.40	1.356	2.730	3.284	5.535	8.251	10.212	11.213	11.692	11.442
7.50	1.348	2.713	3.264	5.502	8.223	10.185	11.187	11.680	11.435
7.60	1.340	2.697	3.244	5.470	8.195	10.157	11.162	11.667	11.429
7.70	1.332	2.682	3.226	5.439	8.167	10.129	11.137	11.653	11.421

Carl Bro a/s - DMC
NAPA/D/STAB/040506
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P40357500

DIAMOND 53
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	1.325	2.667	3.208	5.409	8.140	10.100	11.113	11.639	11.414
7.90	1.318	2.653	3.191	5.381	8.113	10.071	11.089	11.624	11.405
8.00	1.312	2.640	3.175	5.353	8.086	10.041	11.066	11.609	11.397
8.10	1.305	2.627	3.159	5.326	8.060	10.010	11.043	11.593	11.388
8.20	1.299	2.614	3.144	5.301	8.034	9.979	11.021	11.577	11.379
8.30	1.293	2.603	3.130	5.276	8.008	9.948	10.999	11.560	11.369
8.40	1.288	2.591	3.116	5.253	7.982	9.916	10.978	11.543	11.359
8.50	1.282	2.580	3.103	5.230	7.957	9.883	10.957	11.526	11.349
8.60	1.277	2.570	3.090	5.208	7.932	9.851	10.936	11.508	11.339
8.70	1.272	2.559	3.078	5.187	7.906	9.818	10.916	11.489	11.328
8.80	1.268	2.550	3.066	5.167	7.880	9.784	10.895	11.470	11.317
8.90	1.263	2.540	3.055	5.148	7.854	9.751	10.875	11.451	11.306
9.00	1.259	2.532	3.044	5.130	7.827	9.717	10.855	11.432	11.295
9.10	1.255	2.523	3.034	5.112	7.799	9.684	10.834	11.412	11.283
9.20	1.251	2.515	3.024	5.095	7.771	9.650	10.813	11.392	11.272
9.30	1.247	2.507	3.014	5.079	7.743	9.617	10.791	11.372	11.260
9.40	1.243	2.500	3.005	5.063	7.714	9.585	10.769	11.351	11.248
9.50	1.240	2.492	2.997	5.049	7.685	9.552	10.747	11.330	11.236
9.60	1.236	2.486	2.989	5.034	7.656	9.520	10.724	11.309	11.224
9.70	1.233	2.479	2.981	5.021	7.626	9.489	10.701	11.287	11.212
9.80	1.230	2.473	2.973	5.008	7.596	9.457	10.677	11.266	11.199
9.90	1.227	2.467	2.966	4.996	7.567	9.426	10.653	11.244	11.187
10.00	1.225	2.462	2.959	4.984	7.536	9.395	10.628	11.222	11.174
10.10	1.222	2.456	2.953	4.973	7.506	9.364	10.603	11.199	11.161
10.20	1.220	2.451	2.947	4.962	7.476	9.333	10.578	11.177	11.148
10.30	1.217	2.446	2.941	4.952	7.445	9.302	10.553	11.154	11.136
10.40	1.215	2.442	2.936	4.943	7.414	9.272	10.527	11.131	11.123
10.50	1.213	2.438	2.931	4.933	7.383	9.241	10.500	11.108	11.110
10.60	1.211	2.434	2.926	4.925	7.352	9.211	10.474	11.085	11.097
10.70	1.209	2.430	2.921	4.917	7.321	9.181	10.447	11.062	11.084
10.80	1.208	2.426	2.917	4.909	7.290	9.152	10.419	11.038	11.071
10.90	1.206	2.423	2.913	4.902	7.259	9.122	10.391	11.015	11.058
11.00	1.204	2.420	2.909	4.895	7.228	9.093	10.363	10.991	11.045
11.10	1.203	2.417	2.906	4.889	7.197	9.063	10.335	10.968	11.032
11.20	1.202	2.415	2.903	4.883	7.166	9.034	10.306	10.944	11.019
11.30	1.201	2.412	2.900	4.877	7.136	9.004	10.277	10.920	11.006
11.40	1.200	2.410	2.897	4.872	7.105	8.974	10.247	10.896	10.993
11.50	1.199	2.408	2.895	4.867	7.075	8.944	10.218	10.872	10.980
11.60	1.198	2.406	2.892	4.863	7.046	8.913	10.188	10.848	10.967
11.70	1.197	2.404	2.890	4.859	7.018	8.882	10.157	10.823	10.954
11.80	1.196	2.403	2.889	4.854	6.990	8.850	10.127	10.799	10.941
11.90	1.196	2.402	2.887	4.849	6.963	8.819	10.096	10.774	10.928
12.00	1.195	2.401	2.886	4.844	6.937	8.786	10.065	10.749	10.915
12.10	1.195	2.400	2.884	4.838	6.911	8.754	10.033	10.724	10.902
12.20	1.194	2.399	2.884	4.831	6.885	8.722	10.002	10.698	10.889
12.30	1.194	2.398	2.883	4.823	6.860	8.689	9.970	10.673	10.876
12.40	1.194	2.398	2.882	4.815	6.836	8.656	9.938	10.647	10.862
12.50	1.194	2.398	2.882	4.807	6.811	8.623	9.905	10.621	10.849
12.60	1.194	2.398	2.881	4.797	6.788	8.590	9.873	10.595	10.836
12.70	1.194	2.398	2.881	4.787	6.765	8.557	9.840	10.568	10.823
12.80	1.194	2.398	2.881	4.776	6.742	8.524	9.807	10.542	10.809
12.90	1.194	2.398	2.881	4.765	6.720	8.491	9.774	10.515	10.796
13.00	1.195	2.398	2.882	4.752	6.698	8.457	9.740	10.488	10.782
13.10	1.195	2.399	2.882	4.740	6.676	8.424	9.706	10.461	10.769
13.20	1.195	2.400	2.883	4.726	6.655	8.391	9.673	10.433	10.755

KN AS A FUNCTION OF DRAUGHT AND HEELING ANGLE

INITIAL TRIM: 2.00 M

UNIT: m

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INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	3.020	5.794	6.645	8.872	10.404	11.220	11.548	11.589	11.094
2.60	2.918	5.641	6.504	8.772	10.340	11.196	11.568	11.649	11.126
2.70	2.824	5.493	6.364	8.670	10.278	11.171	11.583	11.701	11.154
2.80	2.736	5.349	6.227	8.571	10.216	11.145	11.598	11.750	11.178
2.90	2.654	5.211	6.094	8.474	10.155	11.121	11.612	11.796	11.199
3.00	2.578	5.079	5.964	8.380	10.096	11.096	11.626	11.838	11.218
3.10	2.506	4.952	5.837	8.287	10.037	11.072	11.639	11.877	11.235
3.20	2.440	4.832	5.713	8.196	9.980	11.049	11.652	11.911	11.250
3.30	2.377	4.718	5.593	8.107	9.924	11.025	11.665	11.941	11.264
3.40	2.318	4.609	5.477	8.020	9.869	11.003	11.678	11.968	11.275
3.50	2.263	4.507	5.365	7.934	9.815	10.980	11.690	11.990	11.285
3.60	2.211	4.410	5.258	7.850	9.762	10.958	11.702	12.009	11.293
3.70	2.162	4.318	5.154	7.768	9.710	10.936	11.714	12.025	11.301
3.80	2.116	4.230	5.055	7.687	9.659	10.915	11.725	12.038	11.307
3.90	2.073	4.147	4.961	7.607	9.609	10.894	11.736	12.048	11.312
4.00	2.031	4.069	4.870	7.529	9.560	10.873	11.747	12.055	11.316
4.10	1.992	3.994	4.784	7.452	9.512	10.853	11.756	12.060	11.319
4.20	1.955	3.922	4.702	7.377	9.465	10.833	11.764	12.063	11.321
4.30	1.920	3.855	4.623	7.302	9.419	10.814	11.770	12.063	11.325
4.40	1.887	3.790	4.548	7.229	9.373	10.794	11.774	12.062	11.331
4.50	1.855	3.728	4.476	7.157	9.329	10.776	11.776	12.058	11.339
4.60	1.825	3.670	4.407	7.086	9.285	10.757	11.776	12.053	11.351
4.70	1.797	3.614	4.341	7.016	9.242	10.739	11.774	12.047	11.364
4.80	1.770	3.561	4.278	6.947	9.199	10.722	11.769	12.040	11.378
4.90	1.744	3.510	4.218	6.879	9.158	10.705	11.763	12.031	11.392
5.00	1.720	3.461	4.160	6.812	9.117	10.688	11.754	12.021	11.405
5.10	1.697	3.415	4.105	6.746	9.076	10.672	11.744	12.010	11.418
5.20	1.675	3.371	4.052	6.681	9.037	10.656	11.732	11.998	11.430
5.30	1.654	3.328	4.002	6.617	8.998	10.640	11.719	11.985	11.441
5.40	1.633	3.288	3.953	6.554	8.959	10.625	11.704	11.972	11.450
5.50	1.614	3.249	3.907	6.492	8.922	10.610	11.688	11.957	11.459
5.60	1.596	3.212	3.863	6.431	8.884	10.595	11.671	11.942	11.466
5.70	1.578	3.176	3.820	6.371	8.848	10.581	11.652	11.926	11.473
5.80	1.561	3.142	3.779	6.312	8.812	10.567	11.633	11.909	11.478
5.90	1.545	3.110	3.740	6.255	8.776	10.554	11.612	11.892	11.482
6.00	1.529	3.078	3.702	6.200	8.741	10.540	11.591	11.876	11.486
6.10	1.514	3.048	3.666	6.146	8.707	10.526	11.569	11.860	11.488
6.20	1.500	3.020	3.632	6.093	8.673	10.510	11.546	11.846	11.490
6.30	1.486	2.992	3.599	6.043	8.639	10.494	11.523	11.831	11.491
6.40	1.473	2.966	3.567	5.993	8.606	10.477	11.499	11.818	11.491
6.50	1.460	2.940	3.536	5.946	8.574	10.458	11.474	11.805	11.490
6.60	1.448	2.916	3.507	5.899	8.542	10.439	11.449	11.792	11.488
6.70	1.437	2.892	3.479	5.855	8.510	10.418	11.423	11.781	11.486
6.80	1.426	2.870	3.452	5.811	8.479	10.397	11.397	11.769	11.483
6.90	1.415	2.848	3.426	5.769	8.448	10.374	11.370	11.759	11.480
7.00	1.405	2.828	3.401	5.729	8.417	10.351	11.344	11.748	11.475
7.10	1.395	2.808	3.377	5.690	8.387	10.327	11.316	11.738	11.471
7.20	1.385	2.789	3.354	5.652	8.358	10.302	11.289	11.727	11.465
7.30	1.376	2.770	3.332	5.615	8.328	10.276	11.262	11.716	11.460
7.40	1.367	2.753	3.311	5.580	8.299	10.250	11.235	11.704	11.453
7.50	1.359	2.736	3.290	5.546	8.271	10.223	11.209	11.692	11.447
7.60	1.351	2.719	3.271	5.513	8.242	10.195	11.183	11.678	11.439
7.70	1.343	2.704	3.252	5.481	8.214	10.166	11.158	11.665	11.432

Carl Bro a/s - DMC
NAPA/D/STAB/040506
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DIAMOND 53
STABILITY KN DATA
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	1.336	2.689	3.234	5.451	8.187	10.137	11.133	11.650	11.424
7.90	1.329	2.674	3.216	5.421	8.159	10.107	11.109	11.635	11.415
8.00	1.322	2.660	3.200	5.393	8.132	10.077	11.086	11.620	11.406
8.10	1.316	2.647	3.184	5.366	8.105	10.046	11.062	11.604	11.397
8.20	1.309	2.634	3.168	5.340	8.079	10.014	11.039	11.587	11.387
8.30	1.303	2.622	3.153	5.314	8.053	9.982	11.017	11.570	11.377
8.40	1.297	2.610	3.139	5.290	8.027	9.950	10.995	11.553	11.366
8.50	1.292	2.599	3.125	5.267	8.001	9.917	10.974	11.535	11.356
8.60	1.287	2.588	3.112	5.244	7.975	9.884	10.952	11.517	11.345
8.70	1.281	2.578	3.100	5.223	7.949	9.850	10.932	11.498	11.334
8.80	1.277	2.568	3.087	5.202	7.922	9.816	10.911	11.479	11.323
8.90	1.272	2.558	3.076	5.183	7.894	9.782	10.891	11.460	11.312
9.00	1.267	2.549	3.065	5.164	7.866	9.748	10.871	11.441	11.300
9.10	1.263	2.540	3.054	5.145	7.838	9.713	10.850	11.421	11.289
9.20	1.259	2.532	3.044	5.128	7.809	9.679	10.828	11.400	11.277
9.30	1.255	2.524	3.034	5.111	7.780	9.646	10.807	11.380	11.265
9.40	1.251	2.516	3.025	5.095	7.750	9.612	10.784	11.359	11.252
9.50	1.248	2.508	3.016	5.080	7.720	9.579	10.762	11.338	11.240
9.60	1.244	2.501	3.007	5.065	7.690	9.546	10.738	11.317	11.228
9.70	1.241	2.495	2.999	5.051	7.660	9.513	10.715	11.295	11.215
9.80	1.238	2.488	2.992	5.037	7.629	9.481	10.691	11.273	11.203
9.90	1.235	2.482	2.984	5.025	7.598	9.449	10.666	11.252	11.190
10.00	1.232	2.476	2.977	5.012	7.567	9.416	10.642	11.229	11.177
10.10	1.230	2.471	2.971	5.001	7.536	9.384	10.616	11.207	11.165
10.20	1.227	2.466	2.964	4.989	7.504	9.353	10.591	11.185	11.152
10.30	1.225	2.461	2.958	4.979	7.472	9.321	10.565	11.162	11.139
10.40	1.222	2.456	2.953	4.969	7.440	9.289	10.539	11.139	11.127
10.50	1.220	2.452	2.947	4.959	7.408	9.258	10.512	11.116	11.114
10.60	1.218	2.447	2.942	4.950	7.376	9.227	10.485	11.093	11.101
10.70	1.216	2.443	2.937	4.941	7.344	9.196	10.457	11.070	11.089
10.80	1.214	2.440	2.933	4.933	7.312	9.166	10.429	11.047	11.076
10.90	1.213	2.436	2.929	4.925	7.280	9.135	10.401	11.024	11.063
11.00	1.211	2.433	2.925	4.918	7.248	9.105	10.372	11.000	11.050
11.10	1.209	2.430	2.921	4.911	7.216	9.075	10.343	10.976	11.037
11.20	1.208	2.427	2.917	4.905	7.185	9.044	10.314	10.952	11.024
11.30	1.207	2.424	2.914	4.898	7.154	9.013	10.284	10.928	11.011
11.40	1.206	2.422	2.911	4.892	7.123	8.982	10.254	10.904	10.998
11.50	1.205	2.420	2.909	4.886	7.092	8.951	10.224	10.880	10.985
11.60	1.204	2.418	2.906	4.880	7.062	8.919	10.193	10.855	10.972
11.70	1.203	2.416	2.904	4.874	7.033	8.887	10.162	10.830	10.959
11.80	1.202	2.414	2.902	4.868	7.004	8.855	10.131	10.805	10.946
11.90	1.201	2.413	2.900	4.861	6.976	8.822	10.100	10.780	10.933
12.00	1.200	2.411	2.898	4.854	6.948	8.789	10.068	10.755	10.920
12.10	1.200	2.410	2.896	4.847	6.920	8.756	10.036	10.729	10.907
12.20	1.199	2.409	2.895	4.839	6.894	8.723	10.004	10.703	10.894
12.30	1.199	2.408	2.894	4.830	6.867	8.690	9.972	10.677	10.881
12.40	1.199	2.408	2.893	4.821	6.842	8.656	9.940	10.651	10.867
12.50	1.199	2.407	2.892	4.811	6.816	8.623	9.907	10.624	10.854
12.60	1.199	2.407	2.891	4.801	6.792	8.589	9.874	10.598	10.841
12.70	1.199	2.406	2.891	4.790	6.768	8.555	9.841	10.571	10.827
12.80	1.199	2.406	2.891	4.778	6.744	8.522	9.807	10.544	10.814
12.90	1.199	2.406	2.890	4.766	6.720	8.488	9.774	10.517	10.801
13.00	1.199	2.406	2.890	4.753	6.698	8.454	9.740	10.489	10.787
13.10	1.199	2.406	2.890	4.740	6.675	8.421	9.705	10.461	10.774
13.20	1.200	2.407	2.891	4.726	6.653	8.387	9.671	10.434	10.760

KN AS A FUNCTION OF DRAUGHT AND HEELING ANGLE

INITIAL TRIM: 3.00 M

UNIT: m

=====

INITIAL DRAUGHT	HEELING ANGLE (DEGREES)								
	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
2.50	3.062	5.798	6.632	8.838	10.367	11.227	11.615	11.676	11.147
2.60	2.959	5.656	6.500	8.748	10.315	11.202	11.630	11.723	11.177
2.70	2.863	5.516	6.368	8.654	10.259	11.178	11.643	11.766	11.202
2.80	2.774	5.380	6.238	8.562	10.203	11.155	11.655	11.807	11.225
2.90	2.690	5.248	6.112	8.472	10.147	11.132	11.667	11.846	11.245
3.00	2.613	5.122	5.988	8.382	10.093	11.109	11.679	11.883	11.262
3.10	2.540	4.999	5.867	8.295	10.039	11.087	11.690	11.917	11.277
3.20	2.472	4.882	5.749	8.208	9.986	11.065	11.702	11.948	11.289
3.30	2.408	4.769	5.634	8.123	9.934	11.043	11.713	11.976	11.301
3.40	2.348	4.662	5.522	8.040	9.882	11.022	11.724	12.002	11.312
3.50	2.292	4.559	5.414	7.958	9.831	11.001	11.734	12.023	11.321
3.60	2.239	4.462	5.309	7.877	9.781	10.980	11.744	12.042	11.329
3.70	2.189	4.369	5.208	7.797	9.731	10.960	11.754	12.057	11.335
3.80	2.142	4.281	5.110	7.719	9.683	10.940	11.763	12.070	11.341
3.90	2.097	4.197	5.015	7.641	9.635	10.920	11.771	12.079	11.345
4.00	2.055	4.117	4.925	7.565	9.588	10.901	11.778	12.086	11.348
4.10	2.015	4.042	4.838	7.490	9.541	10.882	11.785	12.091	11.351
4.20	1.977	3.969	4.755	7.416	9.496	10.863	11.790	12.093	11.354
4.30	1.942	3.901	4.675	7.343	9.451	10.844	11.794	12.093	11.358
4.40	1.908	3.835	4.599	7.271	9.407	10.826	11.796	12.091	11.363
4.50	1.877	3.773	4.527	7.200	9.363	10.807	11.797	12.088	11.369
4.60	1.846	3.713	4.457	7.130	9.321	10.790	11.796	12.082	11.378
4.70	1.818	3.656	4.390	7.062	9.279	10.772	11.794	12.075	11.389
4.80	1.790	3.602	4.326	6.994	9.237	10.755	11.789	12.067	11.401
4.90	1.764	3.550	4.265	6.927	9.197	10.738	11.783	12.057	11.413
5.00	1.740	3.501	4.207	6.860	9.157	10.722	11.775	12.046	11.425
5.10	1.716	3.453	4.150	6.795	9.117	10.706	11.765	12.034	11.436
5.20	1.693	3.408	4.097	6.731	9.078	10.690	11.753	12.022	11.446
5.30	1.672	3.365	4.045	6.667	9.040	10.674	11.741	12.008	11.455
5.40	1.651	3.323	3.996	6.605	9.002	10.659	11.726	11.994	11.464
5.50	1.631	3.284	3.948	6.543	8.965	10.645	11.711	11.979	11.472
5.60	1.612	3.246	3.903	6.483	8.929	10.630	11.694	11.964	11.479
5.70	1.594	3.209	3.859	6.424	8.893	10.616	11.675	11.947	11.485
5.80	1.577	3.175	3.818	6.366	8.857	10.601	11.656	11.930	11.491
5.90	1.561	3.141	3.778	6.309	8.822	10.587	11.636	11.913	11.495
6.00	1.545	3.109	3.739	6.253	8.787	10.572	11.614	11.896	11.498
6.10	1.529	3.079	3.703	6.199	8.753	10.557	11.592	11.880	11.500
6.20	1.515	3.049	3.667	6.146	8.720	10.541	11.569	11.864	11.501
6.30	1.501	3.021	3.634	6.095	8.687	10.525	11.545	11.848	11.501
6.40	1.487	2.994	3.601	6.045	8.654	10.507	11.521	11.833	11.501
6.50	1.474	2.968	3.570	5.997	8.622	10.489	11.496	11.819	11.500
6.60	1.462	2.943	3.540	5.950	8.590	10.469	11.470	11.806	11.498
6.70	1.450	2.919	3.511	5.905	8.558	10.449	11.444	11.794	11.495
6.80	1.439	2.896	3.484	5.861	8.527	10.428	11.418	11.782	11.492
6.90	1.428	2.874	3.457	5.818	8.496	10.405	11.392	11.770	11.488
7.00	1.417	2.853	3.432	5.777	8.466	10.382	11.365	11.759	11.484
7.10	1.407	2.833	3.407	5.737	8.435	10.358	11.338	11.748	11.478
7.20	1.398	2.813	3.384	5.699	8.406	10.333	11.310	11.736	11.473
7.30	1.388	2.794	3.361	5.662	8.376	10.308	11.283	11.724	11.467
7.40	1.380	2.776	3.339	5.626	8.347	10.281	11.256	11.711	11.460
7.50	1.371	2.759	3.318	5.591	8.318	10.254	11.229	11.698	11.453
7.60	1.363	2.742	3.298	5.557	8.290	10.226	11.203	11.684	11.445
7.70	1.355	2.726	3.279	5.525	8.261	10.197	11.177	11.670	11.437

Carl Bro a/s - DMC
NAPA/D/STAB/040506
P40357500/CXS4204
P40357500

DIAMOND 53
STABILITY KN DATA
TRIM = 3

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TIME 09:27
USER HND
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DRAUGHT	5.0	10.0	12.0	20.0	30.0	40.0	50.0	60.0	75.0
7.80	1.347	2.711	3.260	5.494	8.233	10.168	11.152	11.656	11.428
7.90	1.340	2.696	3.242	5.464	8.206	10.138	11.127	11.641	11.419
8.00	1.333	2.682	3.225	5.435	8.178	10.107	11.103	11.625	11.410
8.10	1.326	2.668	3.209	5.407	8.151	10.076	11.079	11.609	11.400
8.20	1.320	2.655	3.193	5.380	8.124	10.044	11.056	11.592	11.391
8.30	1.313	2.642	3.177	5.354	8.097	10.012	11.033	11.575	11.381
8.40	1.307	2.630	3.163	5.329	8.069	9.979	11.011	11.558	11.370
8.50	1.302	2.618	3.149	5.305	8.042	9.946	10.989	11.540	11.360
8.60	1.296	2.607	3.135	5.282	8.014	9.913	10.967	11.522	11.349
8.70	1.291	2.597	3.122	5.260	7.987	9.879	10.946	11.503	11.337
8.80	1.286	2.586	3.110	5.239	7.958	9.844	10.925	11.484	11.326
8.90	1.281	2.576	3.098	5.219	7.930	9.810	10.904	11.465	11.314
9.00	1.277	2.567	3.087	5.199	7.901	9.775	10.882	11.445	11.303
9.10	1.272	2.558	3.076	5.180	7.871	9.741	10.861	11.425	11.291
9.20	1.268	2.549	3.065	5.162	7.841	9.706	10.839	11.405	11.279
9.30	1.264	2.541	3.055	5.145	7.811	9.671	10.817	11.384	11.267
9.40	1.260	2.533	3.046	5.128	7.781	9.636	10.794	11.363	11.254
9.50	1.256	2.525	3.036	5.113	7.750	9.602	10.771	11.342	11.242
9.60	1.253	2.518	3.028	5.097	7.718	9.568	10.748	11.321	11.230
9.70	1.249	2.511	3.019	5.083	7.687	9.534	10.724	11.300	11.217
9.80	1.246	2.505	3.011	5.069	7.655	9.500	10.699	11.278	11.205
9.90	1.243	2.498	3.004	5.055	7.623	9.467	10.675	11.256	11.192
10.00	1.240	2.492	2.996	5.042	7.591	9.434	10.649	11.234	11.180
10.10	1.237	2.487	2.989	5.030	7.559	9.401	10.624	11.212	11.167
10.20	1.235	2.481	2.983	5.018	7.526	9.368	10.598	11.190	11.155
10.30	1.232	2.476	2.977	5.007	7.493	9.336	10.571	11.167	11.142
10.40	1.230	2.471	2.971	4.996	7.461	9.303	10.545	11.145	11.130
10.50	1.228	2.466	2.965	4.986	7.428	9.271	10.517	11.122	11.117
10.60	1.225	2.462	2.960	4.976	7.395	9.239	10.490	11.099	11.105
10.70	1.223	2.458	2.955	4.967	7.362	9.208	10.461	11.076	11.092
10.80	1.221	2.454	2.950	4.958	7.330	9.176	10.433	11.052	11.079
10.90	1.220	2.450	2.945	4.950	7.297	9.145	10.404	11.029	11.066
11.00	1.218	2.447	2.941	4.942	7.265	9.113	10.375	11.005	11.054
11.10	1.216	2.444	2.937	4.934	7.232	9.081	10.346	10.981	11.041
11.20	1.215	2.441	2.933	4.926	7.200	9.049	10.316	10.957	11.028
11.30	1.214	2.438	2.930	4.918	7.169	9.017	10.286	10.933	11.015
11.40	1.212	2.435	2.927	4.911	7.137	8.985	10.255	10.908	11.002
11.50	1.211	2.433	2.924	4.903	7.106	8.953	10.225	10.883	10.989
11.60	1.210	2.430	2.921	4.895	7.075	8.920	10.194	10.858	10.976
11.70	1.209	2.428	2.918	4.887	7.045	8.887	10.162	10.833	10.963
11.80	1.208	2.426	2.916	4.879	7.015	8.853	10.131	10.807	10.950
11.90	1.207	2.425	2.913	4.870	6.986	8.820	10.099	10.782	10.937
12.00	1.207	2.423	2.911	4.861	6.957	8.786	10.067	10.756	10.924
12.10	1.206	2.421	2.909	4.852	6.928	8.753	10.035	10.729	10.910
12.20	1.205	2.420	2.907	4.843	6.900	8.719	10.002	10.703	10.897
12.30	1.205	2.419	2.906	4.832	6.873	8.685	9.969	10.676	10.884
12.40	1.205	2.418	2.905	4.822	6.846	8.651	9.936	10.650	10.871
12.50	1.204	2.417	2.903	4.811	6.820	8.617	9.903	10.623	10.857
12.60	1.204	2.416	2.902	4.799	6.794	8.583	9.869	10.596	10.844
12.70	1.204	2.415	2.901	4.787	6.769	8.549	9.836	10.568	10.830
12.80	1.204	2.415	2.901	4.775	6.744	8.515	9.802	10.541	10.817
12.90	1.204	2.415	2.900	4.762	6.720	8.480	9.767	10.513	10.803
13.00	1.204	2.414	2.900	4.748	6.696	8.446	9.733	10.485	10.790
13.10	1.204	2.414	2.900	4.734	6.673	8.412	9.698	10.457	10.776
13.20	1.204	2.414	2.899	4.720	6.650	8.378	9.663	10.429	10.762

10 MAXIMUM KG AND MINIMUM GM LIMIT CURVES

This section contains limit curves for intact and damage stability. The related calculation for damage stability can be found in the SOLAS Damage Stability Manual.

Trim equal to 1 meter forward	1
Trim equal to even keel	3
Trim equal to 1 meter aft	5
Trim equal to 2 meter aft	7
Trim equal to 3 meter aft	9

Carl Bro a/s - DMC
 NAPA/D/LD/040506
 P40357500/CXS4204
 P40357500

DIAMOND 53
 INTACT AND DAMAGE LIMIT
 MIN GM / TRIM=-1

DATE 2006-03-28
 TIME 08:56
 USER JAN
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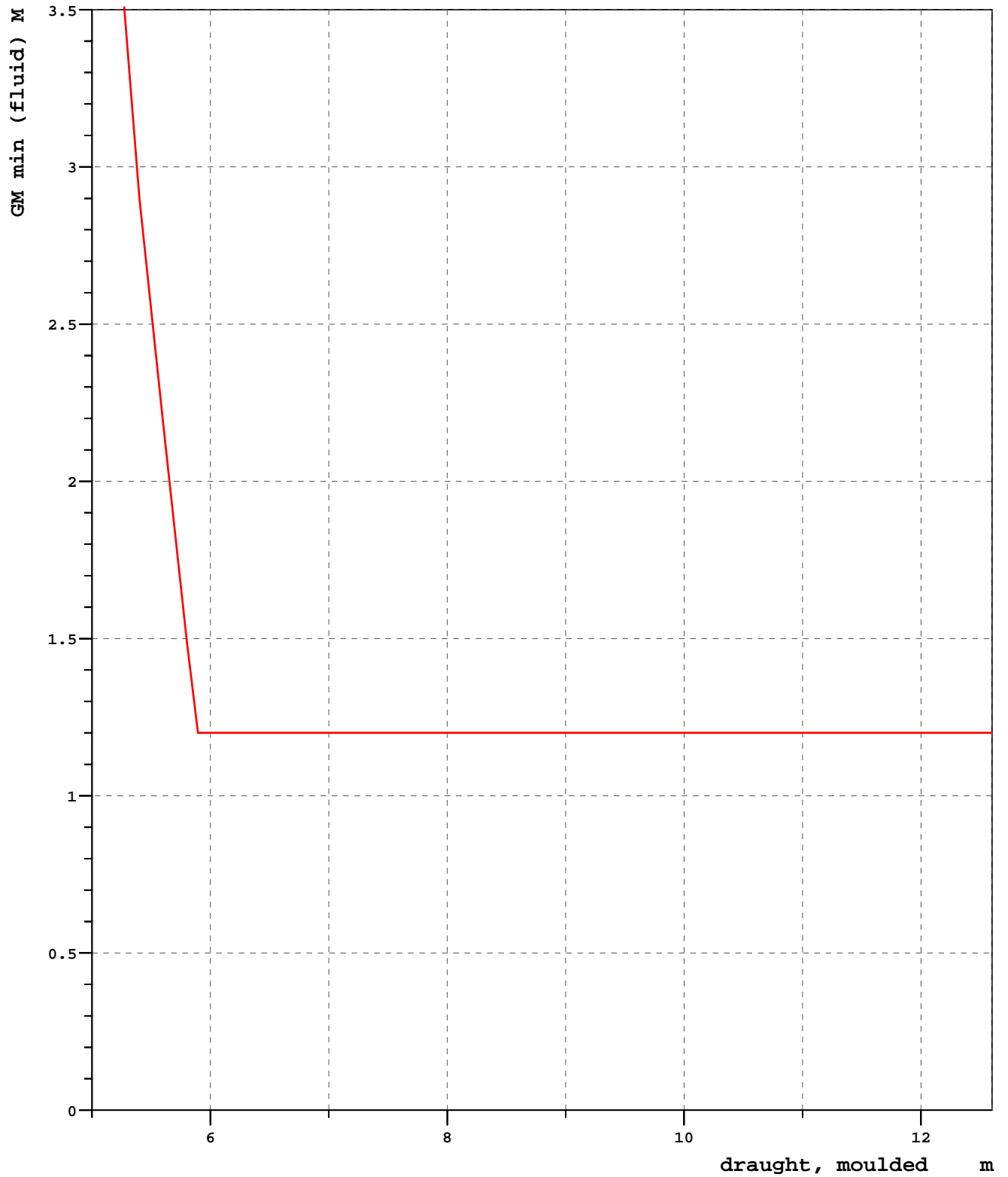
MIN GM LIMIT CURVE FOR INTACT AND DAMAGE STABILITY TRIM --> -1 M

RELEVANT OPENINGS --> OPENING
 RELEVANT CRITERIA INTACT --> IMO IMOWEATHER
 RELEVANT CRITERIA DAMAGE --> SOLAS 25

LIMIT CURVE

DCRI	T m	MINGM m	MAXKG m	DCRI	T m	MINGM m	MAXKG m
MAXGZ25	5.000	4.852	14.294	GMD	8.800	1.200	13.210
MAXGZ25	5.200	3.852	14.806	GMD	9.000	1.200	13.113
MAXGZ25	5.400	2.903	15.308	GMD	9.200	1.200	13.024
MAXGZ25	5.600	2.188	15.615	GMD	9.400	1.200	12.944
MAXGZ25	5.800	1.492	15.936	GMD	9.600	1.200	12.872
	5.895	1.200	16.065	GMD	9.800	1.200	12.806
GMD	6.000	1.200	15.884	GMD	10.000	1.200	12.745
GMD	6.200	1.200	15.567	GMD	10.200	1.200	12.691
GMD	6.400	1.200	15.276	GMD	10.400	1.200	12.642
GMD	6.600	1.200	15.056	GMD	10.600	1.200	12.599
GMD	6.800	1.200	14.810	GMD	10.800	1.200	12.561
GMD	7.000	1.200	14.584	GMD	11.000	1.200	12.529
GMD	7.200	1.200	14.376	GMD	11.200	1.200	12.505
GMD	7.400	1.200	14.184	GMD	11.400	1.200	12.485
GMD	7.600	1.200	14.007	GMD	11.600	1.200	12.469
GMD	7.800	1.200	13.845	GMD	11.800	1.200	12.456
GMD	8.000	1.200	13.696	GMD	12.000	1.200	12.448
GMD	8.200	1.200	13.559	GMD	12.200	1.200	12.443
GMD	8.400	1.200	13.433	GMD	12.400	1.200	12.441
GMD	8.600	1.200	13.317	GMD	12.600	1.200	12.442

Minimum GM



Carl Bro a/s - DMC
 NAPA/D/LD/040506
 P40357500/CXS4204
 P40357500

DIAMOND 53
 INTACT AND DAMAGE LIMIT
 MIN GM / TRIM=0

DATE 2006-03-28
 TIME 08:57
 USER JAN
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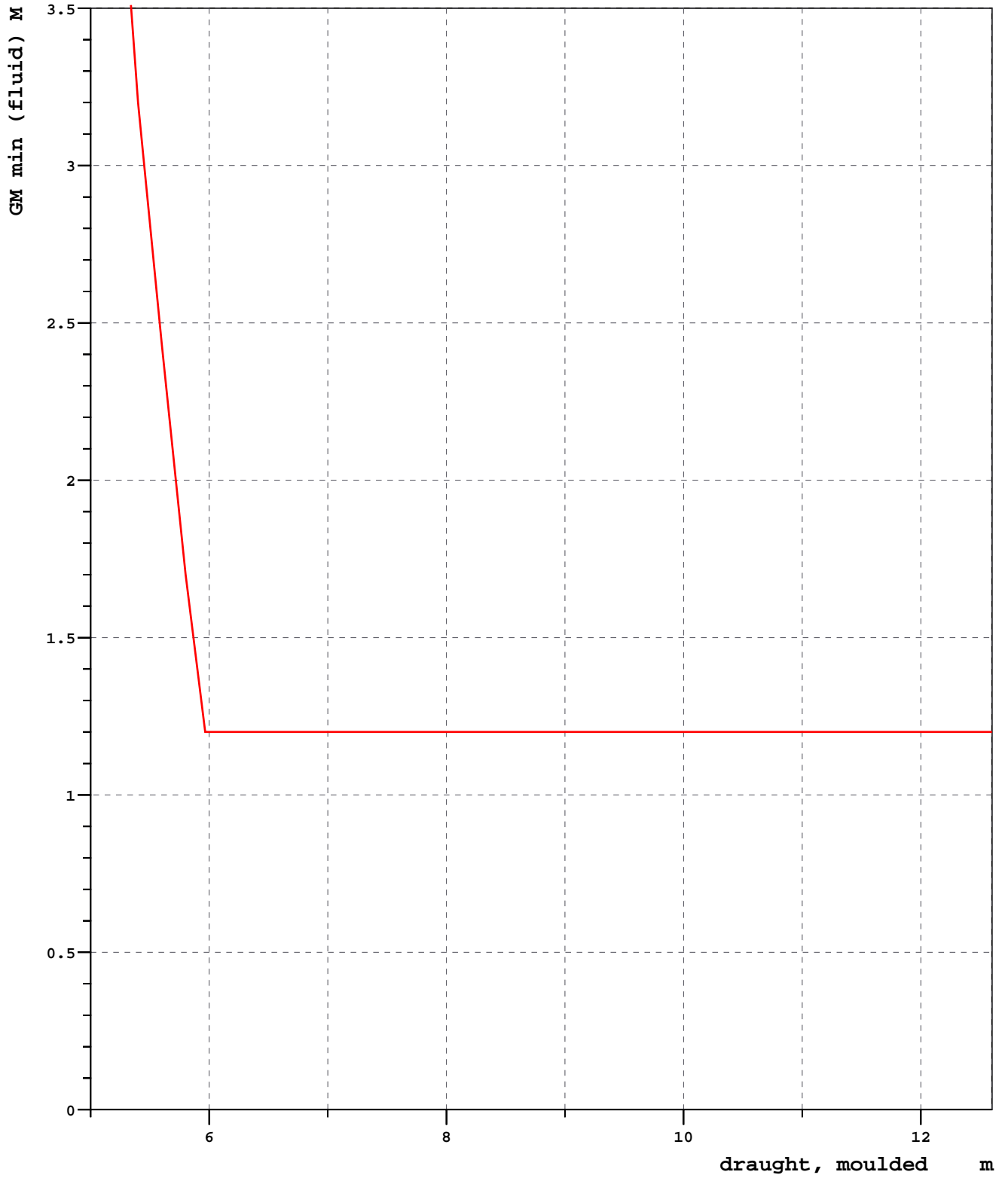
MIN GM LIMIT CURVE FOR INTACT AND DAMAGE STABILITY TRIM --> 0 M

RELEVANT OPENINGS --> OPENING
 RELEVANT CRITERIA INTACT --> IMO IMOWEATHER
 RELEVANT CRITERIA DAMAGE --> SOLAS 25

LIMIT CURVE

DCRI	T m	MINGM m	MAXKG m	DCRI	T m	MINGM m	MAXKG m
MAXGZ25	5.000	5.256	14.102	GMD	8.800	1.200	13.302
MAXGZ25	5.200	4.226	14.629	GMD	9.000	1.200	13.201
MAXGZ25	5.400	3.201	15.196	GMD	9.200	1.200	13.110
MAXGZ25	5.600	2.432	15.547	GMD	9.400	1.200	13.027
MAXGZ25	5.800	1.702	15.893	GMD	9.600	1.200	12.951
	5.966	1.200	16.103	GMD	9.800	1.200	12.882
GMD	6.000	1.200	16.042	GMD	10.000	1.200	12.819
GMD	6.200	1.200	15.770	GMD	10.200	1.200	12.763
GMD	6.400	1.200	15.472	GMD	10.400	1.200	12.712
GMD	6.600	1.200	15.198	GMD	10.600	1.200	12.667
GMD	6.800	1.200	14.945	GMD	10.800	1.200	12.626
GMD	7.000	1.200	14.712	GMD	11.000	1.200	12.591
GMD	7.200	1.200	14.497	GMD	11.200	1.200	12.560
GMD	7.400	1.200	14.301	GMD	11.400	1.200	12.535
GMD	7.600	1.200	14.119	GMD	11.600	1.200	12.517
GMD	7.800	1.200	13.952	GMD	11.800	1.200	12.504
GMD	8.000	1.200	13.798	GMD	12.000	1.200	12.493
GMD	8.200	1.200	13.658	GMD	12.200	1.200	12.487
GMD	8.400	1.200	13.528	GMD	12.400	1.200	12.484
GMD	8.600	1.200	13.409	GMD	12.600	1.200	12.484

Minimum GM



Carl Bro a/s - DMC
 NAPA/D/LD/040506
 P40357500/CXS4204
 P40357500

DIAMOND 53
 INTACT AND DAMAGE LIMIT
 MIN GM / TRIM=1

DATE 2006-03-28
 TIME 08:57
 USER JAN
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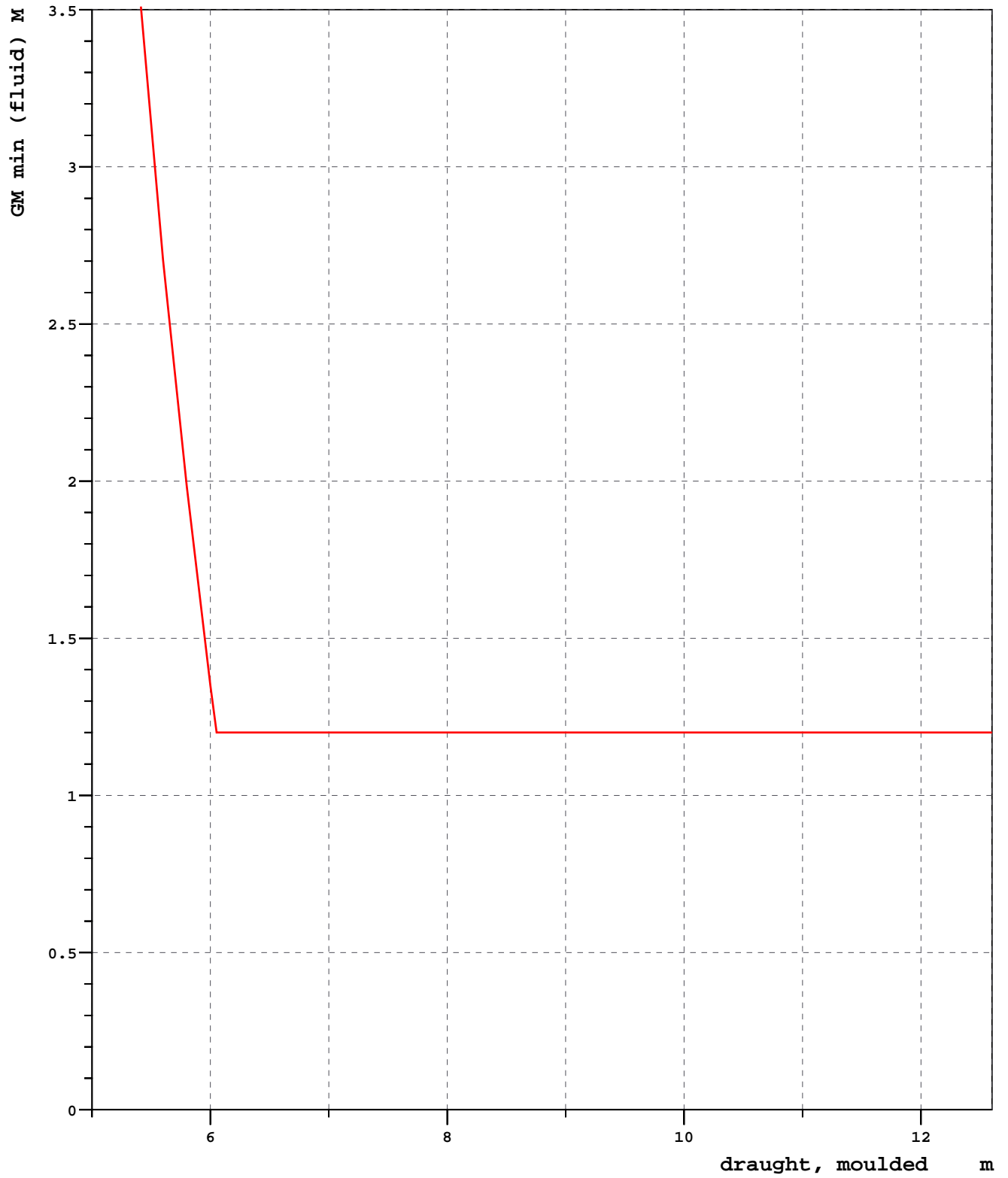
MIN GM LIMIT CURVE FOR INTACT AND DAMAGE STABILITY TRIM --> 1 M

RELEVANT OPENINGS --> OPENING
 RELEVANT CRITERIA INTACT --> IMO IMOWEATHER
 RELEVANT CRITERIA DAMAGE --> SOLAS 25

LIMIT CURVE

DCRI	T m	MINGM m	MAXKG m	DCRI	T m	MINGM m	MAXKG m
MAXGZ25	5.000	5.587	13.988	GMD	8.800	1.200	13.398
MAXGZ25	5.200	4.563	14.496	GMD	9.000	1.200	13.296
MAXGZ25	5.400	3.566	15.024	GMD	9.200	1.200	13.203
MAXGZ25	5.600	2.703	15.457	GMD	9.400	1.200	13.116
MAXGZ25	5.800	1.984	15.783	GMD	9.600	1.200	13.036
MAXGZ25	6.000	1.350	16.113	GMD	9.800	1.200	12.964
	6.053	1.200	16.175	GMD	10.000	1.200	12.899
GMD	6.200	1.200	15.931	GMD	10.200	1.200	12.841
GMD	6.400	1.200	15.626	GMD	10.400	1.200	12.787
GMD	6.600	1.200	15.346	GMD	10.600	1.200	12.740
GMD	6.800	1.200	15.088	GMD	10.800	1.200	12.698
GMD	7.000	1.200	14.848	GMD	11.000	1.200	12.660
GMD	7.200	1.200	14.629	GMD	11.200	1.200	12.628
GMD	7.400	1.200	14.426	GMD	11.400	1.200	12.600
GMD	7.600	1.200	14.239	GMD	11.600	1.200	12.576
GMD	7.800	1.200	14.068	GMD	11.800	1.200	12.557
GMD	8.000	1.200	13.910	GMD	12.000	1.200	12.545
GMD	8.200	1.200	13.764	GMD	12.200	1.200	12.537
GMD	8.400	1.200	13.632	GMD	12.400	1.200	12.532
GMD	8.600	1.200	13.510	GMD	12.600	1.200	12.531

Minimum GM



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DIAMOND 53
 INTACT AND DAMAGE LIMIT
 MIN GM / TRIM=2

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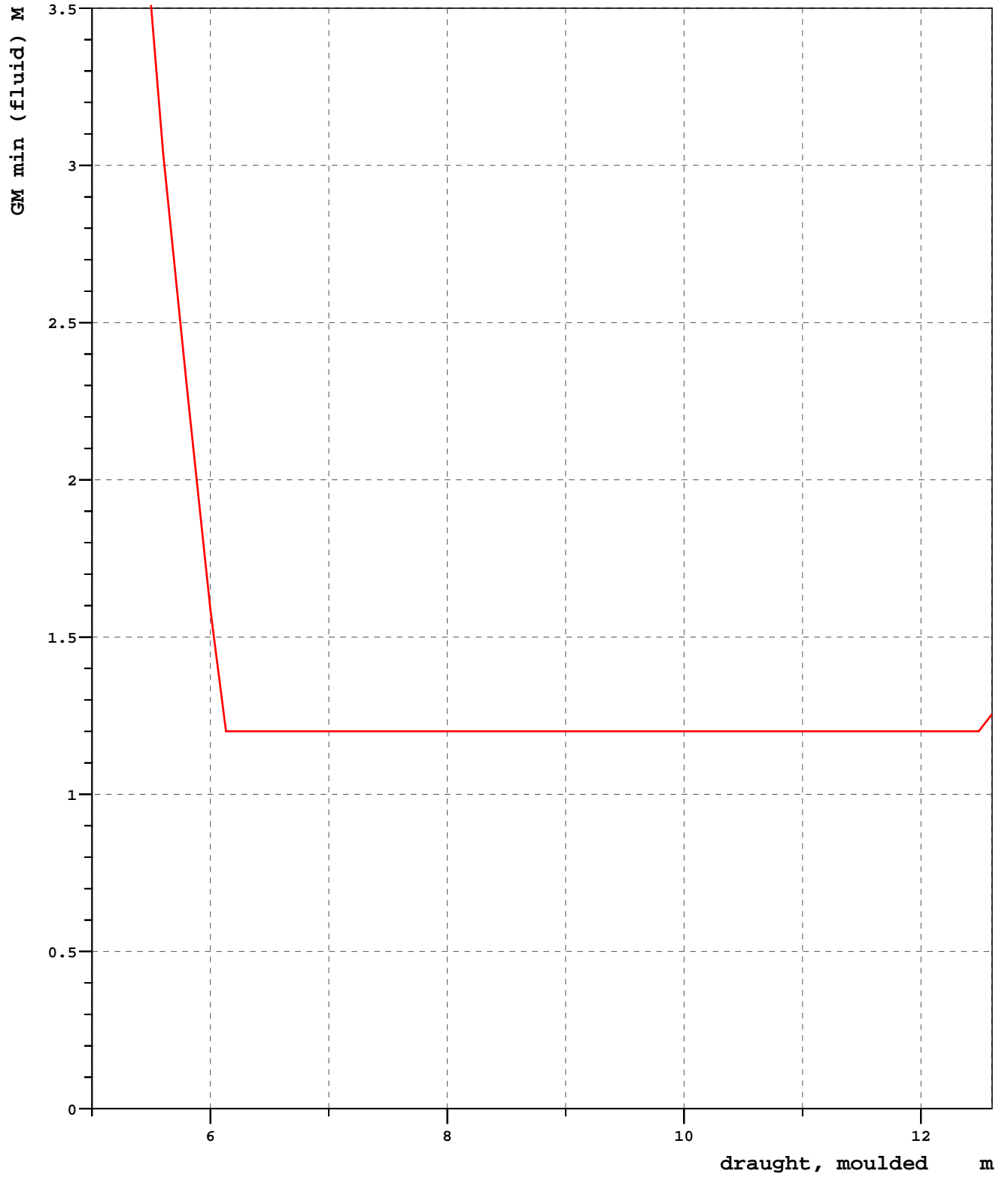
MIN GM LIMIT CURVE FOR INTACT AND DAMAGE STABILITY TRIM --> 2 M

RELEVANT OPENINGS --> OPENING
 RELEVANT CRITERIA INTACT --> IMO IMOWEATHER
 RELEVANT CRITERIA DAMAGE --> SOLAS 25

LIMIT CURVE

DCRI	T m	MINGM m	MAXKG m	DCRI	T m	MINGM m	MAXKG m
MAXGZ25	5.000	5.871	13.927	GMD	9.000	1.200	13.396
MAXGZ25	5.200	4.955	14.315	GMD	9.200	1.200	13.298
MAXGZ25	5.400	3.962	14.827	GMD	9.400	1.200	13.209
MAXGZ25	5.600	3.042	15.366	GMD	9.600	1.200	13.128
MAXGZ25	5.800	2.298	15.707	GMD	9.800	1.200	13.053
MAXGZ25	6.000	1.588	16.048	GMD	10.000	1.200	12.985
	6.132	1.200	16.212	GMD	10.200	1.200	12.923
GMD	6.200	1.200	16.097	GMD	10.400	1.200	12.868
GMD	6.400	1.200	15.787	GMD	10.600	1.200	12.819
GMD	6.600	1.200	15.500	GMD	10.800	1.200	12.774
GMD	6.800	1.200	15.235	GMD	11.000	1.200	12.735
GMD	7.000	1.200	14.992	GMD	11.200	1.200	12.701
GMD	7.200	1.200	14.767	GMD	11.400	1.200	12.671
GMD	7.400	1.200	14.559	GMD	11.600	1.200	12.645
GMD	7.600	1.200	14.367	GMD	11.800	1.200	12.624
GMD	7.800	1.200	14.190	GMD	12.000	1.200	12.607
GMD	8.000	1.200	14.028	GMD	12.200	1.200	12.593
GMD	8.200	1.200	13.880	GMD	12.400	1.200	12.586
GMD	8.400	1.200	13.743		12.489	1.200	12.585
GMD	8.600	1.200	13.617	MAXGZ25	12.600	1.255	12.529
GMD	8.800	1.200	13.502				

Minimum GM



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 P40357500

DIAMOND 53
 INTACT AND DAMAGE LIMIT
 MIN GM / TRIM=3

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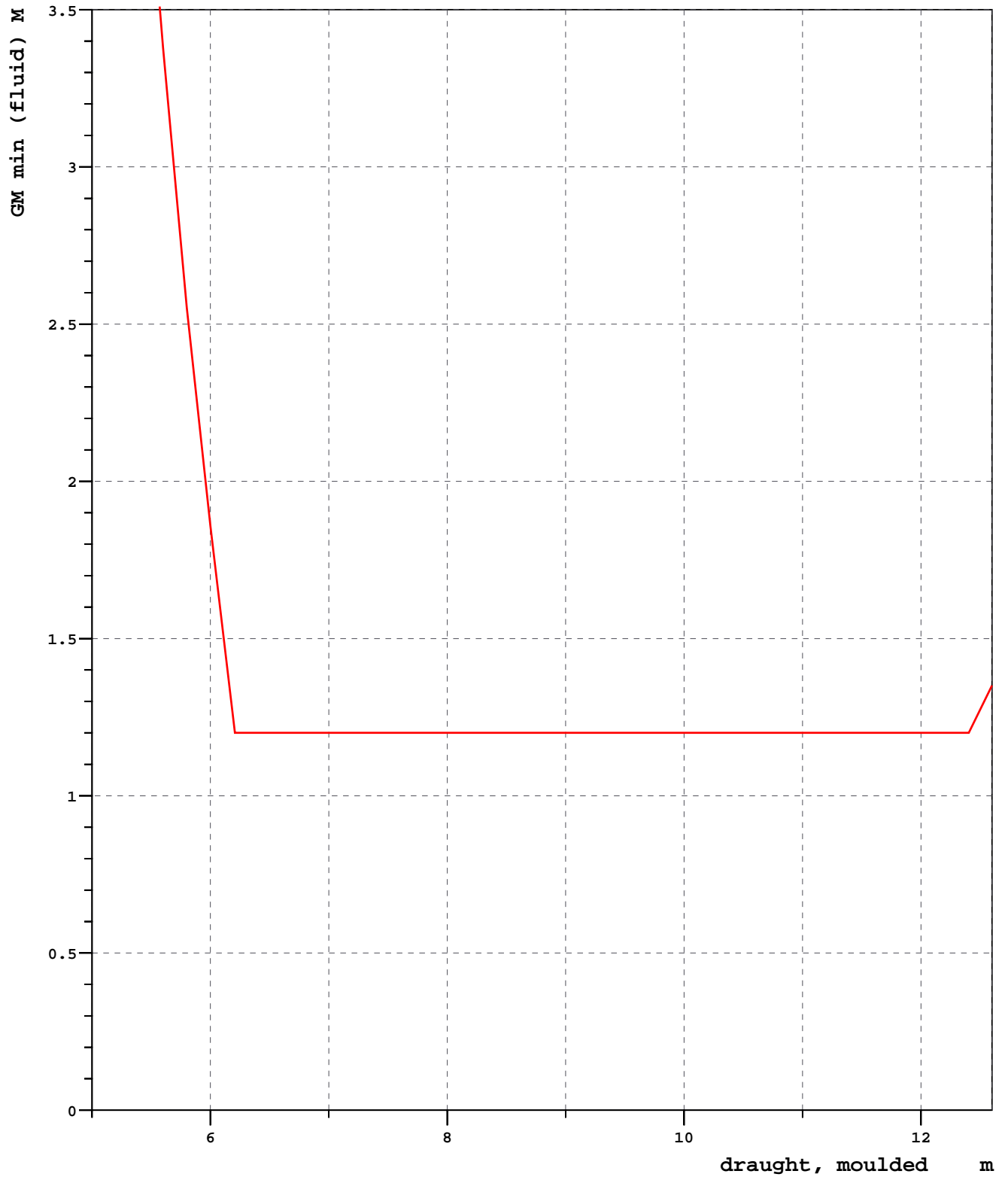
MIN GM LIMIT CURVE FOR INTACT AND DAMAGE STABILITY TRIM --> 3 M

RELEVANT OPENINGS --> OPENING
 RELEVANT CRITERIA INTACT --> IMO IMOWEATHER
 RELEVANT CRITERIA DAMAGE --> SOLAS 25

LIMIT CURVE

DCRI	T m	MINGM m	MAXKG m	DCRI	T m	MINGM m	MAXKG m
MAXGZ25	5.000	6.128	13.893	GMD	9.000	1.200	13.501
MAXGZ25	5.200	5.310	14.238	GMD	9.200	1.200	13.400
MAXGZ25	5.400	4.318	14.738	GMD	9.400	1.200	13.308
MAXGZ25	5.600	3.379	15.226	GMD	9.600	1.200	13.224
MAXGZ25	5.800	2.553	15.641	GMD	9.800	1.200	13.147
MAXGZ25	6.000	1.859	15.957	GMD	10.000	1.200	13.076
MAXGZ25	6.200	1.220	16.250	GMD	10.200	1.200	13.012
	6.207	1.200	16.259	GMD	10.400	1.200	12.955
GMD	6.400	1.200	15.951	GMD	10.600	1.200	12.903
GMD	6.600	1.200	15.658	GMD	10.800	1.200	12.856
GMD	6.800	1.200	15.389	GMD	11.000	1.200	12.815
GMD	7.000	1.200	15.141	GMD	11.200	1.200	12.779
GMD	7.200	1.200	14.910	GMD	11.400	1.200	12.748
GMD	7.400	1.200	14.698	GMD	11.600	1.200	12.721
GMD	7.600	1.200	14.502	GMD	11.800	1.200	12.697
GMD	7.800	1.200	14.322	GMD	12.000	1.200	12.678
GMD	8.000	1.200	14.155	GMD	12.200	1.200	12.663
GMD	8.200	1.200	14.002	GMD	12.400	1.200	12.652
GMD	8.400	1.200	13.861		12.404	1.200	12.652
GMD	8.600	1.200	13.731	MAXGZ25	12.600	1.351	12.494
GMD	8.800	1.200	13.611				

Minimum GM



11 RELEVANT OPENINGS AND POSITIONS / FLOODING ANGLES

This section contains list of relevant unprotected and weathertight openings, which is used in the stability calculation as flooding points.

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DIAMOND 53
 OPENING GROUP OPENING

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RELEVANT OPENINGS

NAME	TEXT	TYPE	CONNECT	X m	Y m	Z m
CH1P	COAMING NO.1 HOLD P FWD	WEATHERTIGHT	SEA, CH1	167.18	10.39	19.63
CH1S	COAMING NO.1 HOLD S FWD	WEATHERTIGHT	SEA, CH1	167.18	-10.39	19.63
CH2P	COAMING NO.2 HOLD P FWD	WEATHERTIGHT	SEA, CH2	140.79	11.19	19.83
CH2S	COAMING NO.2 HOLD S FWD	WEATHERTIGHT	SEA, CH2	140.79	-11.19	19.83
CH3P	COAMING NO.3 HOLD P FWD	WEATHERTIGHT	SEA, CH3	111.99	11.19	19.83
CH3S	COAMING NO.3 HOLD S FWD	WEATHERTIGHT	SEA, CH3	111.99	-11.19	19.83
CH4P	COAMING NO.4 HOLD P AFT	WEATHERTIGHT	SEA, CH4	61.62	11.19	19.83
CH4S	COAMING NO.4 HOLD S AFT	WEATHERTIGHT	SEA, CH4	61.62	-11.19	19.83
CH5P	COAMING NO.5 HOLD P AFT	WEATHERTIGHT	SEA, CH5	32.81	11.19	19.83
CH5S	COAMING NO.5 HOLD S AFT	WEATHERTIGHT	SEA, CH5	32.81	-11.19	19.83
CHLP	CHAIN LOCKER P	WEATHERTIGHT	CLP, SEA	177.60	4.20	21.78
CHLS	CHAIN LOCKER S	WEATHERTIGHT	CLS, SEA	177.60	-4.20	21.78
A-01	FORE PEAK TANK	WEATHERTIGHT	SEA, FPT	182.20	-9.20	22.60
A-02	FORE PEAK TANK	WEATHERTIGHT	SEA, FPT	182.20	9.20	22.60
A-03	NO.1 DB TANK S FWD	WEATHERTIGHT	SEA, DB1S	170.00	-4.50	21.30
A-04	NO.1 DB TANK S AFT	WEATHERTIGHT	SEA, DB1S	147.60	-4.50	19.70
A-05	NO.1 DB TANK P FWD	WEATHERTIGHT	SEA, DB1P	170.00	4.50	21.30
A-06	NO.1 DB TANK P AFT	WEATHERTIGHT	SEA, DB1P	147.60	4.50	19.70
A-07	NO.1 WT TANK S FWD	WEATHERTIGHT	SEA, WT1S	160.90	-12.30	18.80
A-08	NO.1 WT TANK S AFT	WEATHERTIGHT	SEA, WT1S	154.50	-12.30	18.65
A-09	NO.1 WT TANK P FWD	WEATHERTIGHT	SEA, WT1P	160.90	12.30	18.80
A-10	NO.1 WT TANK P AFT	WEATHERTIGHT	SEA, WT1P	154.50	12.30	18.65
A-11	NO.2 DB TANK S FWD	WEATHERTIGHT	SEA, DB2S	142.00	-12.30	20.10
A-12	NO.2 DB TANK S AFT	WEATHERTIGHT	SEA, DB2S	122.00	-12.30	18.65
A-13	NO.2 DB TANK P FWD	WEATHERTIGHT	SEA, DB2P	142.00	12.30	20.10
A-14	NO.2 DB TANK P AFT	WEATHERTIGHT	SEA, DB2P	122.00	12.30	18.65
A-15	NO.2 WT TANK S FWD	WEATHERTIGHT	SEA, WT2S	141.20	-12.30	20.10
A-16	NO.2 WT TANK S AFT	WEATHERTIGHT	SEA, WT2S	124.40	-12.30	18.90
A-17	NO.2 WT TANK P FWD	WEATHERTIGHT	SEA, WT2P	141.20	12.30	20.10
A-18	NO.2 WT TANK P AFT	WEATHERTIGHT	SEA, WT2P	124.40	12.30	18.90
A-19	NO.3 DB TANK S FWD	WEATHERTIGHT	SEA, DB3S	105.25	-12.30	18.65
A-20	NO.3 DB TANK S AFT	WEATHERTIGHT	SEA, DB3S	93.25	-12.30	18.65
A-21	NO.3 DB TANK P FWD	WEATHERTIGHT	SEA, DB3P	105.25	12.30	18.65
A-22	NO.3 DB TANK P AFT	WEATHERTIGHT	SEA, DB3P	93.25	12.30	18.65
A-23	NO.3 WT TANK S FWD	WEATHERTIGHT	SEA, WT3S	109.05	-12.30	18.65
A-24	NO.3 WT TANK S AFT	WEATHERTIGHT	SEA, WT3S	97.00	-12.30	18.65

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NAME	TEXT	TYPE	CONNECT	X m	Y m	Z m
A-25	NO.3 WT TANK P FWD	WEATHERTIGHT	SEA, WT3P	109.05	12.30	18.65
A-26	NO.3 WT TANK P AFT	WEATHERTIGHT	SEA, WT3P	97.00	12.30	18.65
A-27	NO.4 DB TANK S FWD	WEATHERTIGHT	SEA, DB4S	76.50	-12.30	18.65
A-28	NO.4 DB TANK S AFT	WEATHERTIGHT	SEA, DB4S	64.40	-12.30	18.65
A-29	NO.4 DB TANK P FWD	WEATHERTIGHT	SEA, DB4P	76.50	12.30	18.65
A-30	NO.4 DB TANK P AFT	WEATHERTIGHT	SEA, DB4P	64.40	12.30	18.65
A-31	NO.4 WT TANK S FWD	WEATHERTIGHT	SEA, WT4S	80.25	-12.30	18.65
A-32	NO.4 WT TANK S AFT	WEATHERTIGHT	SEA, WT4S	68.15	-12.30	18.65
A-33	NO.4 WT TANK P FWD	WEATHERTIGHT	SEA, WT4P	80.25	12.30	18.65
A-34	NO.4 WT TANK P AFT	WEATHERTIGHT	SEA, WT4P	60.00	12.30	18.65
A-35	NO.5 DB TANK S FWD	WEATHERTIGHT	SEA, DB5S	49.05	-12.30	18.65
A-36	NO.5 DB TANK S AFT	WEATHERTIGHT	SEA, DB5S	38.05	-12.30	18.65
A-37	NO.5 DB TANK P FWD	WEATHERTIGHT	SEA, DB5P	49.05	12.30	18.65
A-38	NO.5 DB TANK P AFT	WEATHERTIGHT	SEA, DB5P	38.05	12.30	18.65
A-39	NO.5 WT TANK S FWD	WEATHERTIGHT	SEA, WT5S	47.70	-12.30	18.65
A-40	NO.5 WT TANK S AFT	WEATHERTIGHT	SEA, WT5S	35.60	-12.30	18.65
A-41	NO.5 WT TANK P FWD	WEATHERTIGHT	SEA, WT5P	47.70	12.30	18.65
A-42	NO.5 WT TANK P AFT	WEATHERTIGHT	SEA, WT5P	35.60	12.30	18.65
A-43	AFT PEAK TANK	WEATHERTIGHT	SEA, APT	4.40	-2.00	19.10
A-43D	AFT PEAK TANK (DUMMY)	WEATHERTIGHT	SEA, APT	4.40	2.00	19.10
A-51	DUCT KEEL FWD	WEATHERTIGHT	SEA, DCT	144.40	-2.20	19.30
A-51D	DUCT KEEL FWD (DUMMY)	WEATHERTIGHT	SEA, DCT	144.40	2.20	19.30
A-52	DUCT KEEL AFT	WEATHERTIGHT	SEA, DCT	27.40	2.10	19.00
A-52D	DUCT KEEL AFT (DUMMY)	WEATHERTIGHT	SEA, DCT	27.40	-2.10	19.00
A-72	FRESH WATER TANK P	WEATHERTIGHT	SEA, FWP	0.00	11.57	20.00
A-73	FRESH WATER TANK S	WEATHERTIGHT	SEA, FWS	0.00	-11.57	20.00
A-90	HOLD WASH WATER S FWD	WEATHERTIGHT	SEA, TECHS	51.50	-12.30	18.65
A-91	HOLD WASH WATER S AFT	WEATHERTIGHT	SEA, TECHS	39.45	-12.30	18.65
A-92	HOLD WASH WATER P FWD	WEATHERTIGHT	SEA, TECHP	51.50	12.30	18.65
A-93	HOLD WASH WATER P AFT	WEATHERTIGHT	SEA, TECHP	39.45	12.30	18.65
A-01DP	REP. 99,100,101 P (DUMMY)	WEATHERTIGHT	SEA, HOOV	25.60	12.20	19.00
A-01DS	REP. 107,109,112,114 S (DUMM)	WEATHERTIGHT	SEA, HOOV	25.60	-12.20	19.00
A-02DP	REP. 94,95,97 P (DUMMY)	WEATHERTIGHT	SEA, FWD	11.20	6.00	19.00
A-02DS	REP. 108,110,111 S (DUMMY)	WEATHERTIGHT	SEA, FWD	11.20	-6.00	19.00
A-03DP	REP. 103,116,117 P (DUMMY)	WEATHERTIGHT	SEA, LOST1	4.80	8.00	19.40
A-03DS	REP. 104,105,115 S (DUMMY)	WEATHERTIGHT	SEA, LOST1	4.80	-8.00	19.40
V-1017	UPPER PIPE DUCT P	WEATHERTIGHT	SEA, DCTP	46.20	11.70	18.80
V-1018	UPPER PIPE DUCT S	WEATHERTIGHT	SEA, DCTS	46.20	-11.70	18.80

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NAME	TEXT	TYPE	CONNECT	X m	Y m	Z m
V-1045	UPPER PIPE DUCT P	WEATHERTIGHT	SEA, DCTP	103.50	11.70	18.80
V-1046	UPPER PIPE DUCT S	WEATHERTIGHT	SEA, DCTS	103.50	-11.70	18.80
V-1047	UPPER PIPE DUCT FWD S	WEATHERTIGHT	SEA, DCT1S	151.40	-11.80	18.80
V-1048	UPPER PIPE DUCT FWD P	WEATHERTIGHT	SEA, DCT1P	151.40	11.80	18.80
V-1053	UPPER PIPE DUCT FWD P	WEATHERTIGHT	SEA, DCT1P	158.85	11.60	18.80
V-1054	UPPER PIPE DUCT FWD S	WEATHERTIGHT	SEA, DCT1S	158.85	-11.60	18.80
V-0001	STORE ROOM FWD	WEATHERTIGHT	SEA, STOF	173.60	2.50	22.70
V-0002	STORE ROOM FWD	WEATHERTIGHT	SEA, STOF	173.60	-2.50	22.70
V-0003	STORE ROOM FWD S	WEATHERTIGHT	SEA, STOF S	171.20	-14.60	22.70
V-0005	STORE ROOM FWD P	WEATHERTIGHT	SEA, STOF P	171.20	14.60	22.70
V-1001	STEERING GEAR	WEATHERTIGHT	SEA, STG	0.80	5.00	19.30
V-1001D	STEERING GEAR (DUMMY)	WEATHERTIGHT	SEA, STG	0.80	-5.00	19.30
V-1003	STORE ROOM AFT	WEATHERTIGHT	SEA, ER	-3.20	5.20	19.50
V-1003D	STORE ROOM AFT (DUMMY)	WEATHERTIGHT	SEA, ER	-3.20	-5.20	19.50
V-2002	ENGINE ROOM	UNPROTECTED	SEA, ER	4.80	4.80	24.80
V-2002D	ENGINE ROOM (DUMMY)	UNPROTECTED	SEA, ER	4.80	-4.80	24.80
D-ACC1P	ACCOMMODATION (DUMMY)	WEATHERTIGHT	SEA, ER	13.60	9.00	19.38
D-ACC1S	ACCOMMODATION (DUMMY)	WEATHERTIGHT	SEA, ER	13.60	-9.00	19.38
D-ACC2P	ACCOMMODATION (DUMMY)	WEATHERTIGHT	SEA, ER	20.00	12.00	19.38
D-ACC2S	ACCOMMODATION (DUMMY)	WEATHERTIGHT	SEA, ER	20.00	-12.00	19.38
D-ACC3P	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	20.00	5.50	19.00
D-ACC3S	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	20.00	-5.50	19.00

RELEVANT OPENINGS

Loading condition: T=12.54 m; TR=3 m

NAME	TEXT	TYPE	CONNECT	FL. ANGL degree
D-ACC3P	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	38.2
D-ACC3S	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	-
V-2002	ENGINE ROOM	UNPROTECTED	SEA, ER	55.8
V-2002D	ENGINE ROOM (DUMMY)	UNPROTECTED	SEA, ER	-

Loading condition: T=12.54 m; TR=2 m

NAME	TEXT	TYPE	CONNECT	FL. ANGL degree
D-ACC3P	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	40.9
D-ACC3S	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	-
V-2002	ENGINE ROOM	UNPROTECTED	SEA, ER	58.4
V-2002D	ENGINE ROOM (DUMMY)	UNPROTECTED	SEA, ER	-

Loading condition: T=12.54 m; TR=1 m

NAME	TEXT	TYPE	CONNECT	FL. ANGL degree
D-ACC3P	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	43.6
D-ACC3S	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	-
V-2002	ENGINE ROOM	UNPROTECTED	SEA, ER	61.0
V-2002D	ENGINE ROOM (DUMMY)	UNPROTECTED	SEA, ER	-

Loading condition: T=12.54 m; TR=0 m

NAME	TEXT	TYPE	CONNECT	FL. ANGL degree
D-ACC3P	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	46.2
D-ACC3S	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	-
V-2002	ENGINE ROOM	UNPROTECTED	SEA, ER	63.7
V-2002D	ENGINE ROOM (DUMMY)	UNPROTECTED	SEA, ER	-

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DIAMOND 53
UNPROTECTED OPENINGS
FLOODING ANGLE

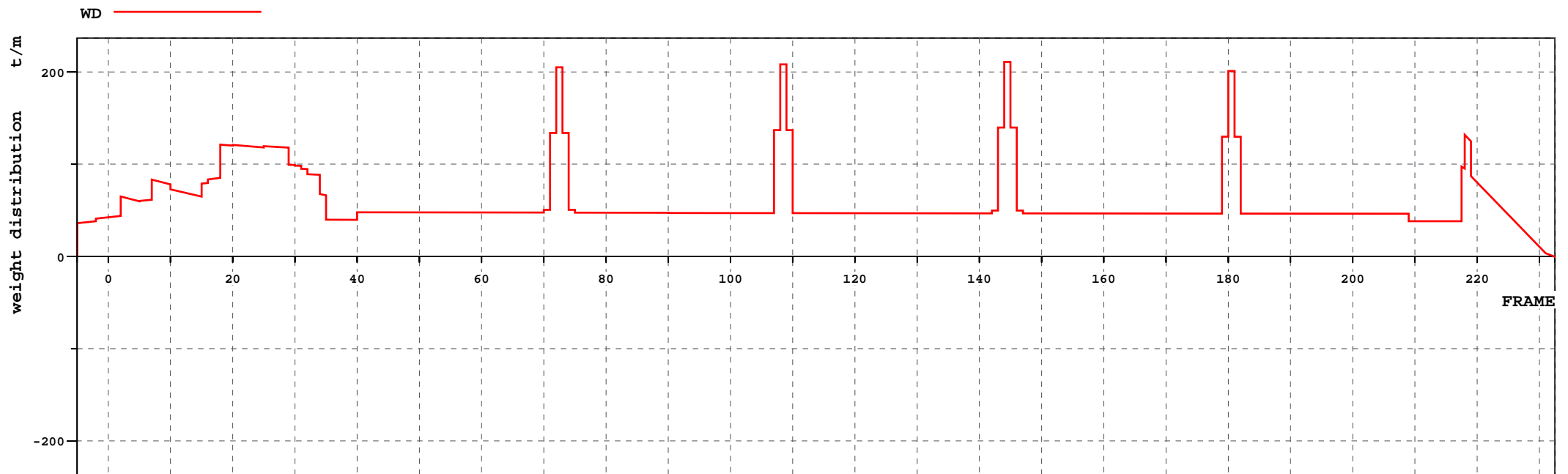
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Loading condition: T=12.54 m; TR=-1 m

NAME	TEXT	TYPE	CONNECT	FL.ANGL degree
D-ACC3P	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	48.9
D-ACC3S	ACCOMMODATION (DUMMY)	UNPROTECTED	CDACC, ER	-
V-2002	ENGINE ROOM	UNPROTECTED	SEA, ER	66.5
V-2002D	ENGINE ROOM (DUMMY)	UNPROTECTED	SEA, ER	-

12 LIGHTWEIGHT DISTRIBUTION

This section contains plot and list of weight elements used in the calculation of weight, COG and distribution.



NAME	TEXT	W t	XCG m	YCG m	ZCG m	XMIN m	XMAX m
M01	MACHINERY PIPING	95.0	21.00	0.00	8.05	12.80	27.20
S01	FOREPEAK FCLE	320.0	177.60	0.00	14.00	174.00	184.80
S02	BHD CH1 -> CH2	182.0	144.40	0.00	11.50	143.20	145.60
S03	BHD CH2 -> CH3	198.0	115.60	0.00	11.50	114.40	116.80
S04	BHD CH3 -> CH4	198.0	86.80	0.00	11.50	85.60	88.00
S05	BHD CH4 -> CH5	182.0	58.00	0.00	11.50	56.80	59.20
S06	CARGO SECTION	5600.0	101.15	0.00	6.90	27.20	175.20
S07	MACHINERY SECTION	1070.0	13.47	0.00	11.00	-4.00	27.20
S08	CASING FUNNEL	80.0	8.00	0.00	25.00	5.60	12.00
S09	ACCOMMODATION	320.0	20.00	0.00	26.50	14.40	28.00
U01	CRANE 1	57.0	144.40	0.00	32.00	144.00	144.80
U02	CRANE 2	57.0	115.60	0.00	32.00	115.20	116.00
U03	CRANE 3	57.0	86.80	0.00	32.00	86.40	87.20
U04	CRANE 4	57.0	58.00	0.00	32.00	57.60	58.40
U05	HATCHES	880.0	99.30	0.00	19.50	32.00	167.20
U06	OUTFIT FOR	220.0	178.30	0.00	20.50	174.40	186.00
U07	OUTFIT MID	200.0	95.50	0.00	18.50	28.00	174.40
U08	OUTFIT AFT	500.0	12.50	0.00	21.00	-4.00	28.00
S10	HATCH COAMING	205.0	100.40	0.00	18.90	32.00	167.20
S11	CRANE PEDESTAL 1	18.0	144.40	0.00	25.00	143.20	145.60
S12	CRANE PEDESTAL 2	18.0	115.60	0.00	25.00	114.40	116.80
S13	CRANE PEDESTAL 3	18.0	86.80	0.00	25.00	85.60	88.00
S14	CRANE PEDESTAL 4	18.0	58.00	0.00	25.00	56.80	59.20
S15	DECK HOUSE FR.72	12.0	58.00	0.00	19.45	56.00	60.00
S16	DECK HOUSE FR.144	12.0	115.60	0.00	19.45	113.60	117.60
M02	ELECTRICAL	25.0	34.80	0.00	15.50	4.00	72.00
M03	BRIDGE EQUIPMENT	6.0	20.00	0.00	32.00	16.00	24.00
M04	TOOLS AND SPARES	15.0	24.00	0.00	14.30	20.00	27.20
M05	MAIN ENGINE	220.0	17.50	0.00	5.90	12.00	23.20
M06	SHAFTS	28.0	8.00	0.00	3.50	4.00	12.00
M07	PROPELLER	17.0	2.60	0.00	3.50	1.60	4.00
M08	AUXILIARY ENG	38.0	4.70	0.00	13.50	1.60	8.00
M09	MACHINERY COMP	80.0	11.80	0.00	14.50	-1.60	24.80
M10	MACHINERY EQUIP	115.0	14.30	0.00	12.70	1.60	25.60
U09	PAINT AND CATH	130.0	67.20	0.00	16.00	-4.00	186.00
X01	TOL AND MARG	-203.9	83.60	0.00	3.60	-4.00	186.00
TOTAL		11044.1	84.08	0.00	11.85		

13 INCLINING EXPERIMENT

This section contains the approved Lightweight Test Report.

The difference in lightweight and lightship LCG compared to Sister Vessel is less than 0.5%. Hence the lightship data from this vessel have been used in the final stability Documentation.



Chengxi Shipyard
 No. 1 Hengshan Road,
 Jiangyin City
 Jiangsu Province 214433
 China
 Att: Mr. Ren Qiang

DET NORSKE VERITAS AS,
 SHANGHAI REPRESENTATIVE
 OFFICE (BRANCH)
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 Central China MI District -
 Management
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 Road
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 Tel: +86 21 3208 4518
 Fax: +86 21 6278 8090
 http://www.dnv.com
 Date:
 2006-09-15

Your ref.:

Our ref.:
 MCHCN324/ZHJP/D24891-J-1788

**CHENGXI SHIPYARD CX4204, CX4205, CX4206, CX4207, CX4208, CX4209, CX4210,
 CX4211, Id.No. D24891
 Lightweight test report for 25303**

Reference is made to your letter dated 2006-09-07. Please find enclosed 1 copy of the following drawing stamped 2006-09-14:

Drawing No.	Rev.	Title	Code	Status
	org	Lightweight test report - ID25303	ITR	Approved

Drawing No. / org, "Lightweight test report - ID25303" is approved, with the following assumption:

872 The lightweight data are approved as follows:

Lightship weight: 11079.5 t
 LCG: 84.278 m from AP
 VCG: 11.853 m from BL (taken from ID24891)

As the difference in lightship weight and LCG compared to the sister vessel (ID24891) is less than 0.5%, the lightweight data for ID24891 may be used for this vessel.

Yours faithfully
 for DET NORSKE VERITAS AS, SHANGHAI REPRESENTATIVE OFFICE (BRANCH)

Sean Kieron Hutchings
 Head of Department
 Central China MI District - New Building

Jin Ping Zhan
 Contact Person



ZHJP

Enclosure: DOC

14 EMPTY CALCULATION SHEETS

The following sheets can be used for checking the intact and damage stability by hand, using the working example in section 5.

Ship :	DIAMOND 53		
Condition :			
Description			
Hydrostatic data: (Table values for trim = 0)			
LCG	(G) from page 1	G	
LCF	Table values (Stability Manual 055-01 section 8)	H	
LCB	Table values (Stability Manual 055-01 section 8)	I	
TRIMMOM.	Table values (Stability Manual 055-01 section 8)	J	
Draught and trim		L _{pp} =	
Mean draught	Table values (Stability Manual 055-01 section 8)	K	
Trim	$= \frac{((I) - (G)) \cdot (A)}{(J) \cdot 100}$	L	
Draught at AP (mld.)	$= (K) + \frac{(L) \cdot (H)}{L_{PP}}$	M	
Draught at FP (mld.)	$= (M) - (L)$	N	
Draught at L _{pp} /2 (mld.)	$= \frac{(M) + (N)}{2}$	O	
Keel plate thickness		P	
L _a	(dist. from draught marks aft, positive=fore of AP)	Q	
L _f	(dist. from draught marks fore, positive=aft of FP)	R	
Draught at marks aft	$= (P) + (M) - \frac{(L) \cdot (Q)}{L_{PP}}$	S	
Draught at marks fore	$= (P) + (N) + \frac{(L) \cdot (R)}{L_{PP}}$	T	
Max. allowable VCG according to intact & damage stability			
Actual VCG (KG)	(F) from page 1	F	
Max. VCG Trim: x = 0	Table values (Stability Manual 055-01 section 10)	U	
Max. VCG Trim: y = 1	Table values (Stability Manual 055-01 section 10)	V	
Max. allowable VCG	$= (U) + \frac{(L) - x}{y - x} \cdot ((V) - (U))$	W	
(F) < (W) : The stability of the ship is sufficient acc. to intact & damage stability			

15 DRAWINGS

This section contains drawings, which is relevant and needed for stability review. The following drawings are included in this Stability Information Manual.

Draught Marks and Position

Wind profile and area

Freeboard Plan

Capacity Plan

POSITION OF DRAUGHT MARKS AND DEFINITION OF DRAUGHTS FORE AND AFT

DRAUGHT MARKS AFT

IF t_a IS MEASURED AT DRAUGHTMARKS AT FR. 0 + 0.2 M:

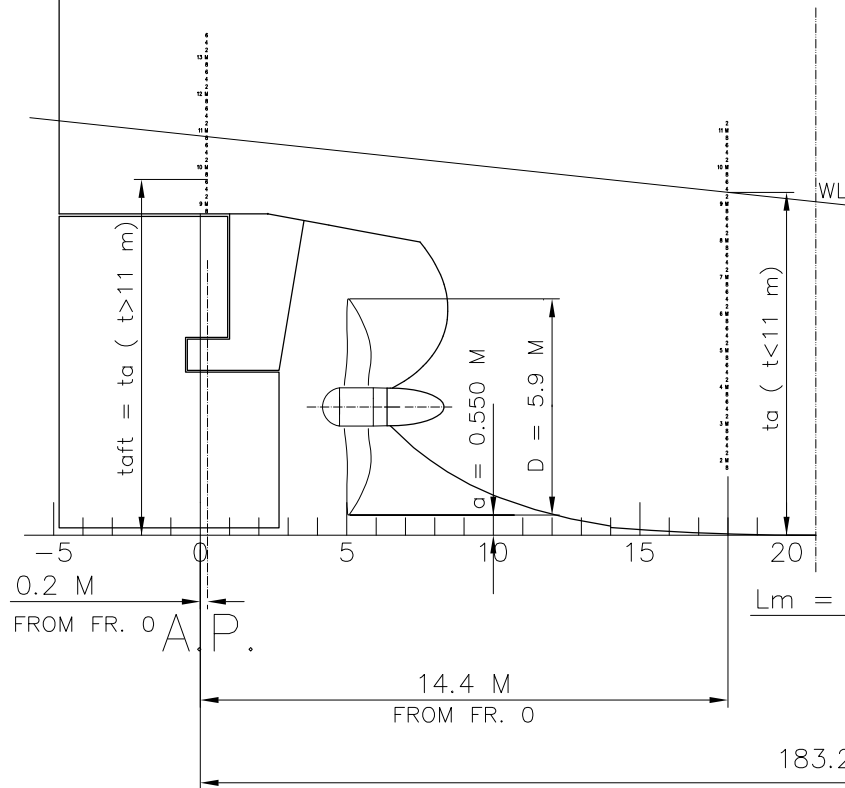
$$\text{trim} = (t_a - t_f) * 183.25 / 182.2 \text{ M}$$

$$t_{aft} = t_a + (\text{trim} * 0.2) / 183.25 \text{ M}$$

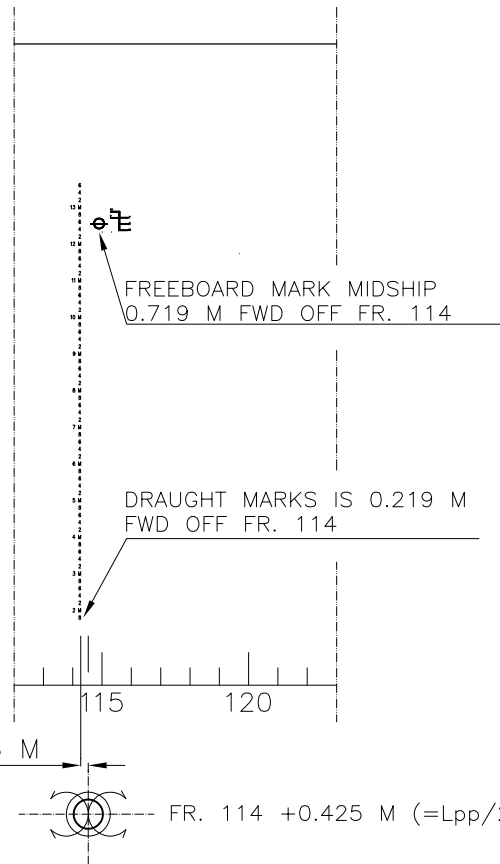
IF t_a IS MEASURED AT DRAUGHTMARKS AT FR. 0 + 14.4 M:

$$\text{trim} = (t_a - t_f) * 183.25 / 168.0 \text{ M}$$

$$t_{aft} = t_a + (\text{trim} * 14.4) / 183.25 \text{ M}$$

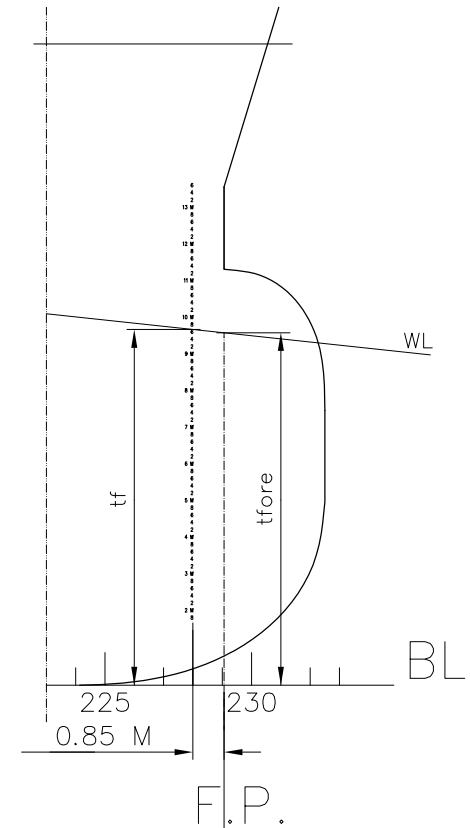


DRAUGHT MARKS AMIDSHIPS



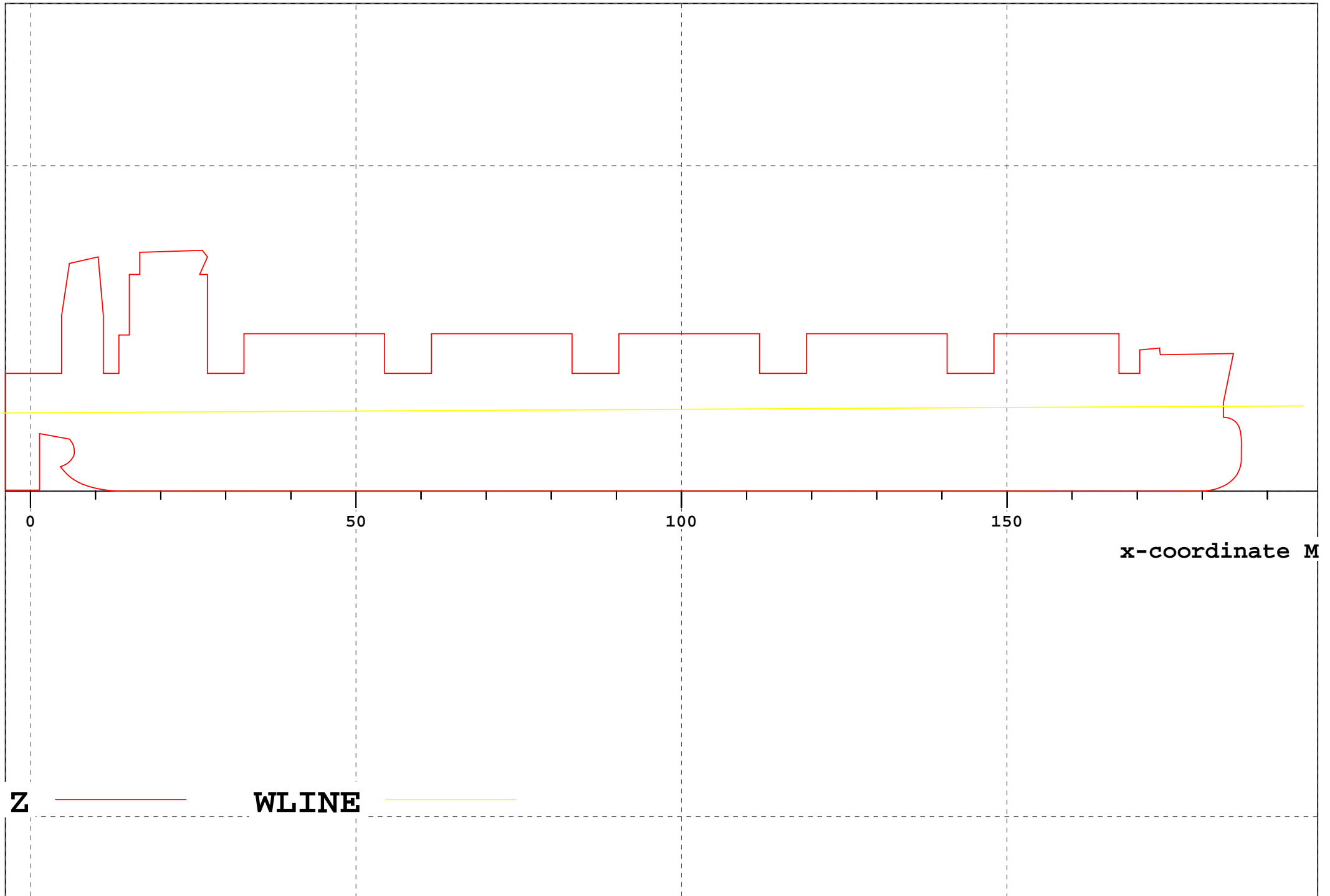
DRAUGHT MARKS FORWARD

$$t_{fwd} = t_f - (\text{trim} * 0.85) / 183.25$$



NOTE: A.P. (FREEBOARD, CENTRE OF RUDDER STOCK) IS 200 mm FWD OF FR. 0
 ALL CALCULATIONS AND DESIGN ARE MADE FROM FR. 0
 THE DISTANCE BETWEEN FR. 0 AND FP IS 183.25 M USED AS L_{pp} IN CALCULATIONS
 t_{aft} IS TAKEN AT FR. 0

NOTE: F.P. (DESIGN & CALC.) IS 50 mm FWD OF FR. 229
 t_{fwd} IS TAKEN AT F.P.



PROFILE

Loading condition: T=5, TR=0 Draught= 5.000 m Trim= 0.000 m

PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	3469.1	14.892	12.37	42905.0

Loading condition: T=6, TR=0 Draught= 6.000 m Trim= 0.000 m

PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	3284.5	15.420	12.40	40715.2

Loading condition: T=7, TR=0 Draught= 7.000 m Trim= 0.000 m

PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	3100.0	15.950	12.43	38525.2

Loading condition: T=8, TR=0 Draught= 8.000 m Trim= 0.000 m

PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	2915.0	16.487	12.46	36330.8

Loading condition: T=9, TR=0 Draught= 9.000 m Trim= 0.000 m

PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	2727.2	17.036	12.51	34105.1

Loading condition: T=10, TR=0 Draught= 10.000 m Trim= 0.000 m

PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	2537.6	17.600	12.56	31868.5

Loading condition: T=11, TR=0 Draught= 11.000 m Trim= 0.000 m

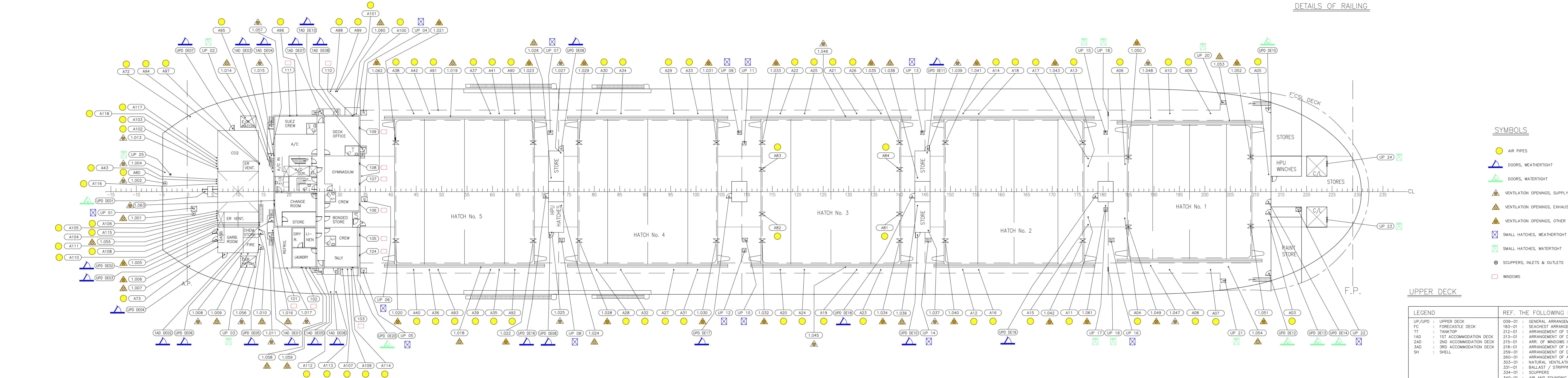
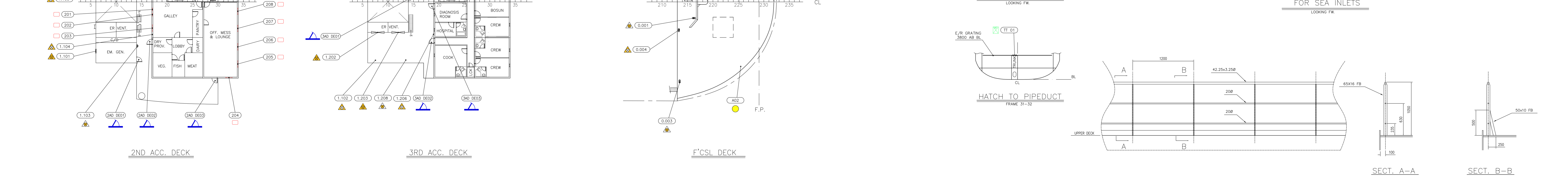
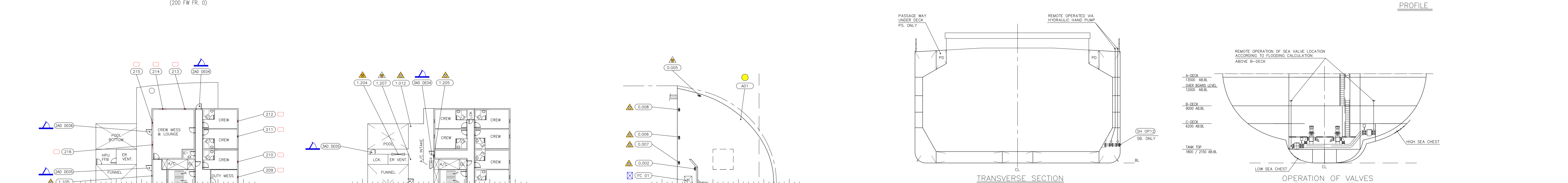
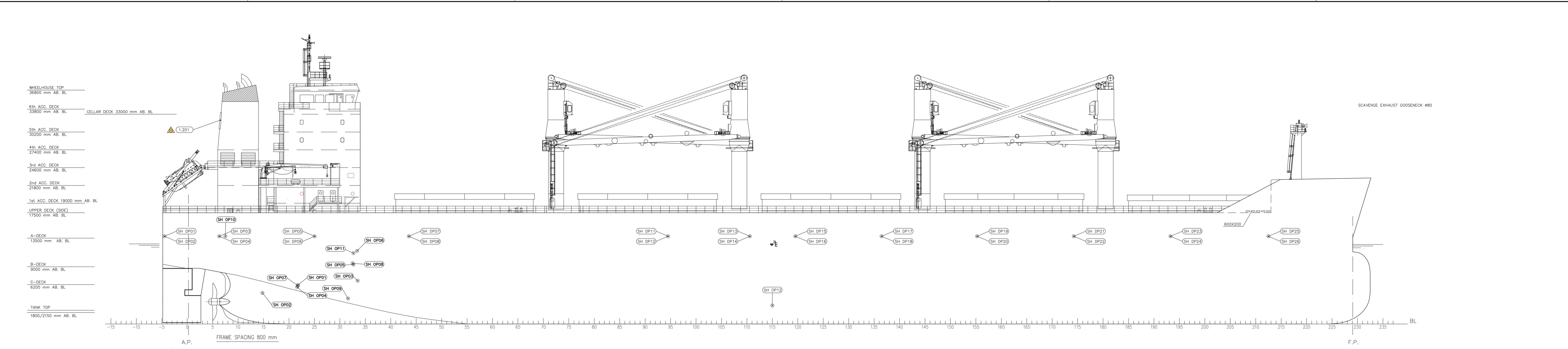
PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	2348.6	18.171	12.62	29646.1

Loading condition: T=12, TR=0 Draught= 12.000 m Trim= 0.000 m

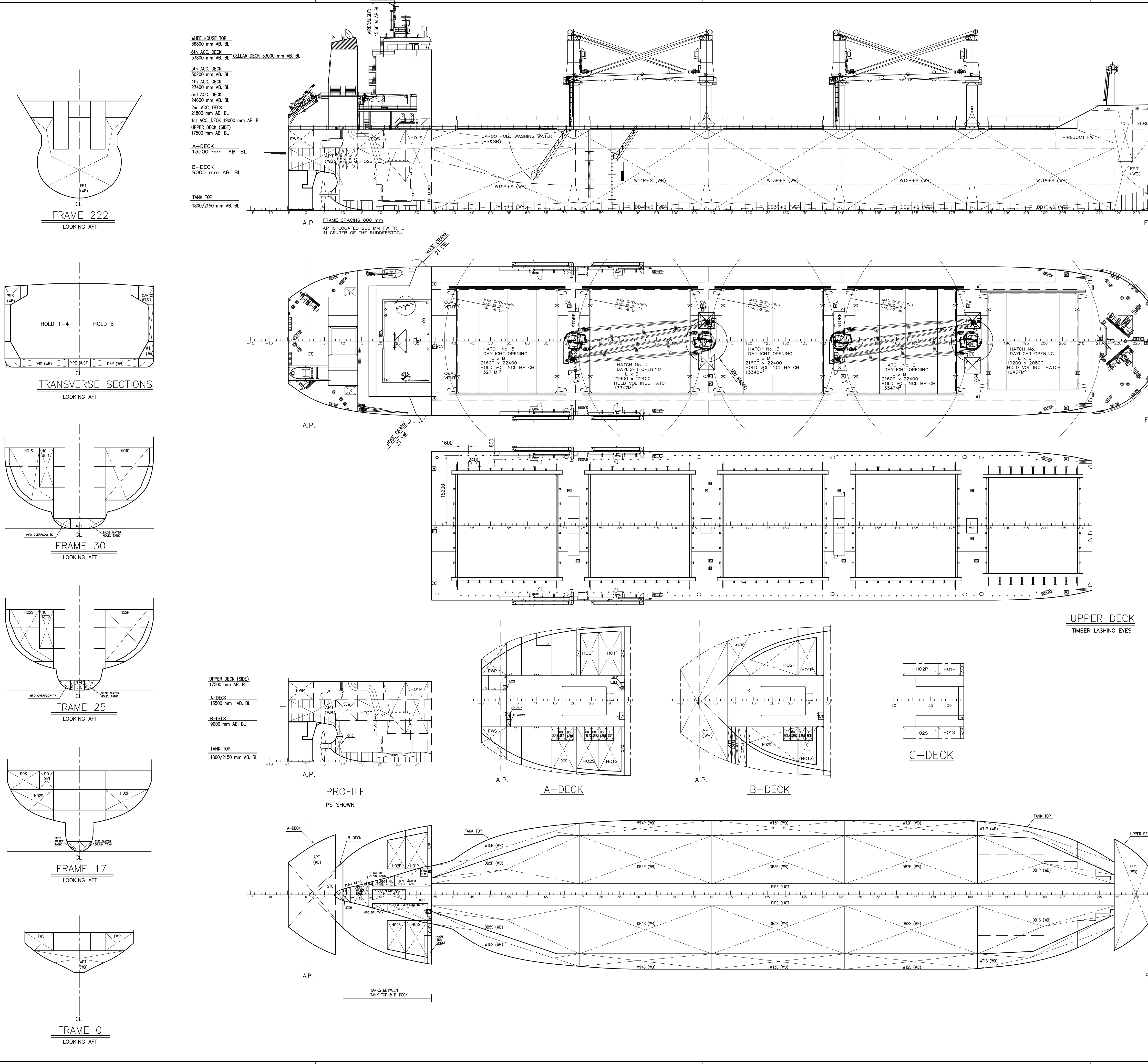
PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	2161.1	18.750	12.70	27446.4

Loading condition: T=13, TR=0 Draught= 13.000 m Trim= 0.000 m

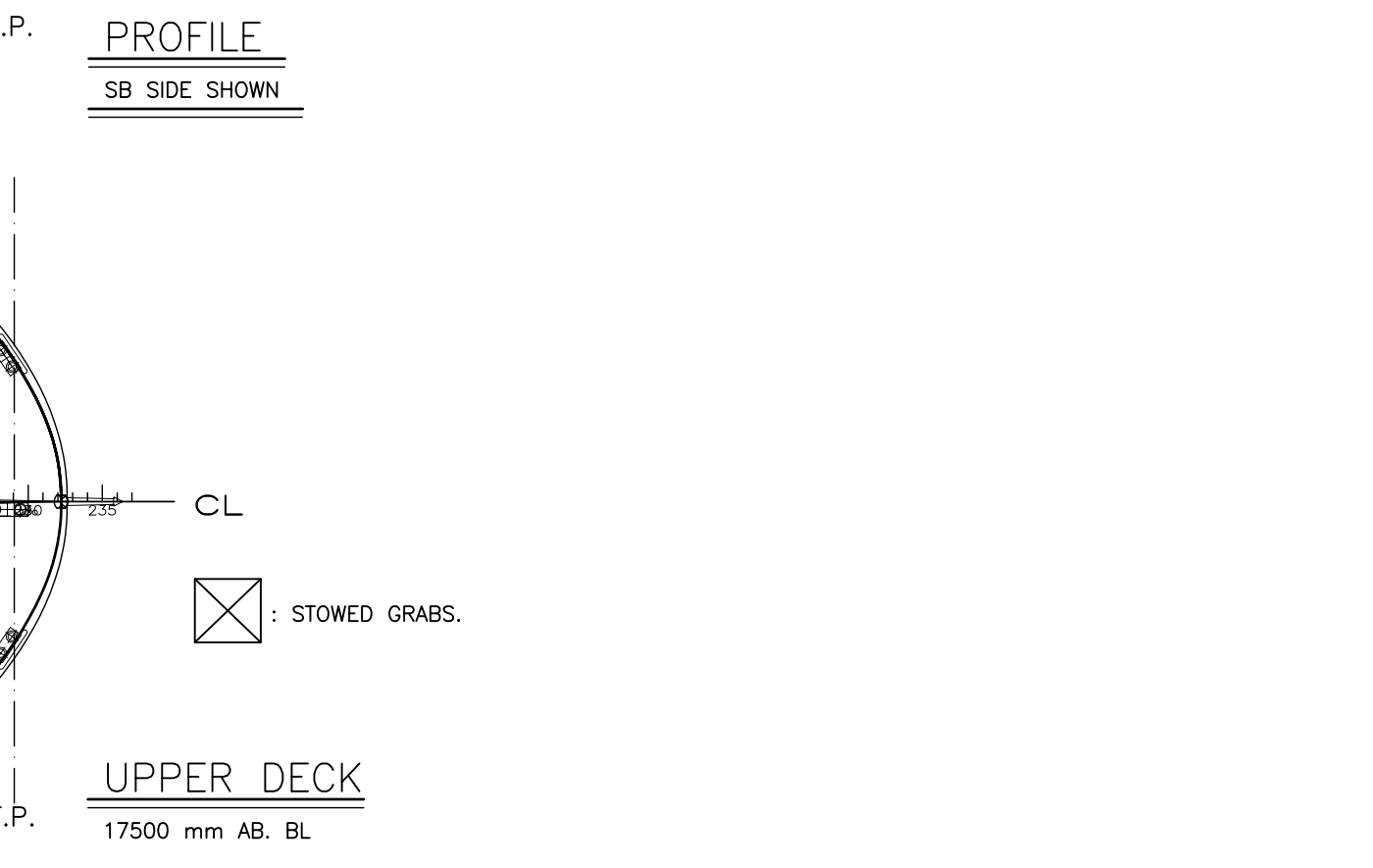
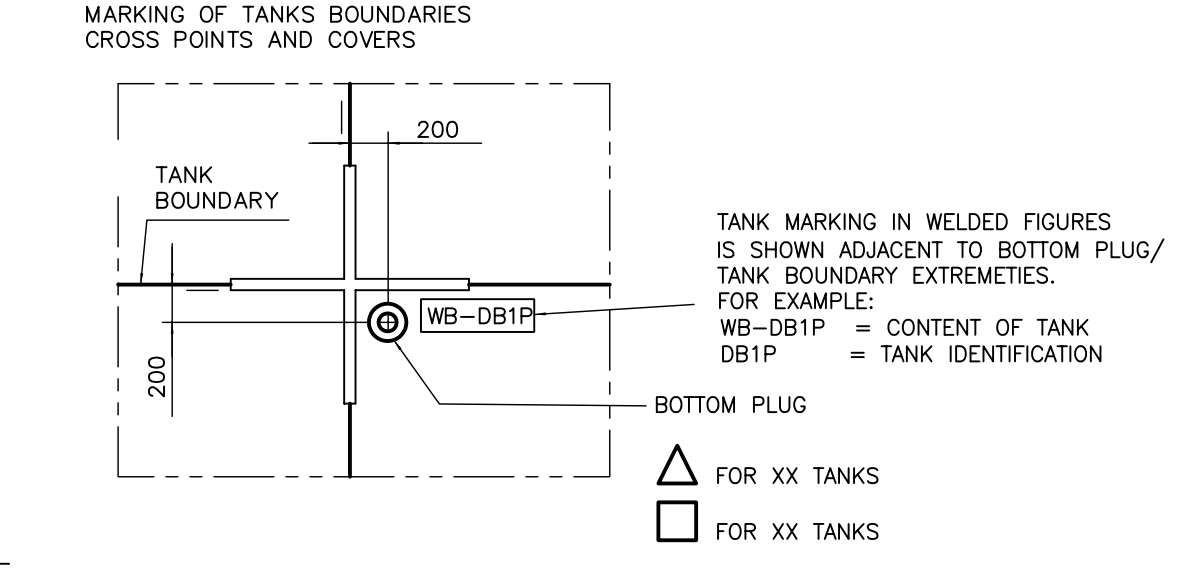
PROF	COEF	AREA m2	ZCG m	LEVER m	MOM m3
WINDPROF	1.000	1974.0	19.342	12.79	25251.2



AIR PIPES: ALL PIPES ARE PROVIDED WITH WT. SELF-CLOSED AIRCAPS			VENTILATION OPENINGS PROVIDED WITH WEATHERTIGHT CLOSING APPLIANCES ACC. TO RULES					
SYMBOL	NO.	POSITION / COMPARTMENT	HEIGHT AB. DECK	SYMBOL	NO.	POSITION	TYPE / SIZE (mm)	HEIGHT AB. DECK (mm)
	A01	FC-226-F FORE PEAN TANK	900		0.001	FC-215-P PAINT STORE - SUPPLY	GOOSENECK #400	1000
	A02	FC-226-F FORE PEAN TANK	900		0.002	FC-215-S PAINT STORE - SUPPLY	GOOSENECK #400	1000
	A03	UP-213-W WE DB 1 S	3270		0.003	FC-217-P DECK STORE - SUPPLY	GOOSENECK #200	1000
	A04	UP-184-W WE DB 1 S	1000		0.004	FC-217-S DECK STORE - SUPPLY	GOOSENECK #400	1000
	A05	UP-213-P WE DB 1 F	3200		0.005	FC-217-P DECK STORE - EXHAUST	GOOSENECK #400	1000
	A06	UP-184-W WE DB 1 F	1000		0.006	FC-217-S DECK STORE - EXHAUST (MECH)	GOOSENECK #400	1000
	A07	UP-201-W WE DB 1 S	1150		0.007	FC-217-P DECK STORE - EXHAUST	GOOSENECK #400	1000
	A08	UP-183-S WE DB 1 S	1050		0.008	FC-213-P HYD.PUMP ROOM - EXHAUST(MECH)	GOOSENECK #400	1000
	A09	UP-201-P WE DB 1 F	1150		1.000	UP-14-P STERLING GEAR ROOM - SUPPLY	8500 - MUSHROOM	1450
	A10	UP-192-P WE DB 1 F	1050		1.001	UP-14-P STERLING GEAR ROOM - SUPPLY	8500 - MUSHROOM	1450
	A11	UP-177-W WE DB 2 S	1475		1.002	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A12	UP-192-W WE DB 2 S	1475		1.003	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A13	UP-177-P WE DB 2 F	1440		1.004	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A14	UP-192-P WE DB 2 F	1440		1.005	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A15	UP-150-S WE DB 2 S	1200		1.006	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A16	UP-177-W WE DB 2 F	1440		1.007	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A17	UP-177-P WE DB 2 F	1440		1.008	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A18	UP-131-W WE DB 3 S	1010		1.009	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A19	UP-131-P WE DB 3 F	1010		1.010	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A20	UP-132-W WE DB 3 S	1010		1.011	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A21	UP-132-P WE DB 3 F	1010		1.012	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A22	UP-116-W WE DB 3 F	1045		1.013	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A23	UP-116-P WE DB 3 F	1045		1.014	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A24	UP-121-S WE DB 3 S	1040		1.015	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A25	UP-121-P WE DB 3 F	1040		1.016	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A26	UP-136-P WE DB 3 F	1010		1.017	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A27	UP-95-S WE DB 4 S	1050		1.018	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A28	UP-80-S WE DB 4 S	1050		1.019	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A29	UP-80-P WE DB 4 F	1050		1.020	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A30	UP-80-W WE DB 4 F	1050		1.021	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A31	UP-100-W WE DB 4 S	1020		1.022	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A32	UP-86-S WE DB 4 S	1020		1.023	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A33	UP-100-P WE DB 4 F	1045		1.024	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A34	UP-100-W WE DB 4 F	1045		1.025	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A35	UP-62-S WE DB 5 S	1090		1.026	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A36	UP-47-S WE DB 5 S	1060		1.027	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A37	UP-47-P WE DB 5 F	1060		1.028	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A38	UP-44-P WE DB 5 F	1020		1.029	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A39	UP-59-S WE DB 5 S	1090		1.030	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A40	UP-44-S WE DB 5 S	990		1.031	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A41	UP-62-P WE DB 5 F	1055		1.032	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A42	UP-47-P WE DB 5 F	1020		1.033	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A43	UP-6-P AFT PEAK TANK	1350		1.034	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	T.001	UP-180-S DB PIPE DUCT GOOSENECK #400	1350		1.035	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	T.002	UP-180-P DB PIPE DUCT GOOSENECK #400	1350		1.036	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A72	UP-0-P FW TK P	2200		1.037	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A73	UP-0-S FW TK S	2200		1.038	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A80	UP-0-P STEERN TUBE COOLING TANK	2000		1.039	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A81	UP-140-S CARGO HOLD NO. 3	2000		1.040	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A82	UP-113-S CARGO HOLD NO. 3	2000		1.041	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A83	UP-113-P CARGO HOLD NO. 3	2000		1.042	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A84	UP-140-P CARGO HOLD NO. 3	2000		1.043	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A85	UP-140-W CARGO WASH T-W-P	1750		1.044	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A91	UP-50-P CARGO WASH T-W-P	1055		1.045	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A92	UP-65-S CARGO WASH T-W-S	1105		1.046	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A93	UP-50-S CARGO WASH T-W-S	1075		1.047	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A94	UP-14-P LO STEERN TUBE DRAIN TANK	900		1.048	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A95	UP-17-P LO STEERN TUBE DRAIN TANK	1790		1.049	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A96	UP-21-P SLOUCE OIL TANK	1760		1.050	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A97	UP-14-P COFFERDAM ECR	1490		1.051	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A98	UP-28-P LOW SEARCHEST	800		1.052	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A99	UP-29-P HIGH SEARCHEST	800		1.053	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A100	UP-33-P COLUNNER LO SERVICE TANK	1880		1.054	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A101	UP-6-P LO STEERN TUBE STORAGE TANK	1070		1.055	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A102	UP-6-P LO STEERN TUBE STORAGE TANK	1070		1.056	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A103	UP-6-P SEPARATOR SLOUCE T-W - BUILT ON LEFT	1970		1.057	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A104	UP-6-S LUB OIL TANK 1 AUX ENGINES	1495		1.058	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A105	UP-6-S LUB OIL TANK 1 MAIN ENGINE	1495		1.059	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A106	UP-6-S SLOUCE OIL TANK	1485		1.060	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A107	UP-30-S HFO OVERFLOW TANK	1835		1.061	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A108	UP-14-S ENGINE ROOM COFFERDAM S	1930		1.062	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A109	UP-14-S DO SETLING TANK	1020		1.063	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A110	UP-14-S FEED WATER TANK	900		1.064	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A111	UP-14-S HFO DRAIN TANK	990		1.065	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A112	UP-28-P COFFERDAM ENGINE ROOM	1880		1.066	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A113	UP-29-S HIGH SEARCHEST	800		1.067	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A114	UP-32-S HFO SETLING TANK	1490		1.068	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A115	UP-6-S COLUNNER LO STORAGE TANK	1090		1.069	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A116	UP-6-P STEERN TUBE	900		1.070	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A117	UP-6-P SCVENGE BOX DRAIN TANK	1030		1.071	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580
	A118	UP-6-P A.V.C. DRAIN	900		1.072	UP-10-S GARB. ROOM - SUPPLY	250 x 250 HINGED TYPE	2580



TYPICAL TANK MARKING



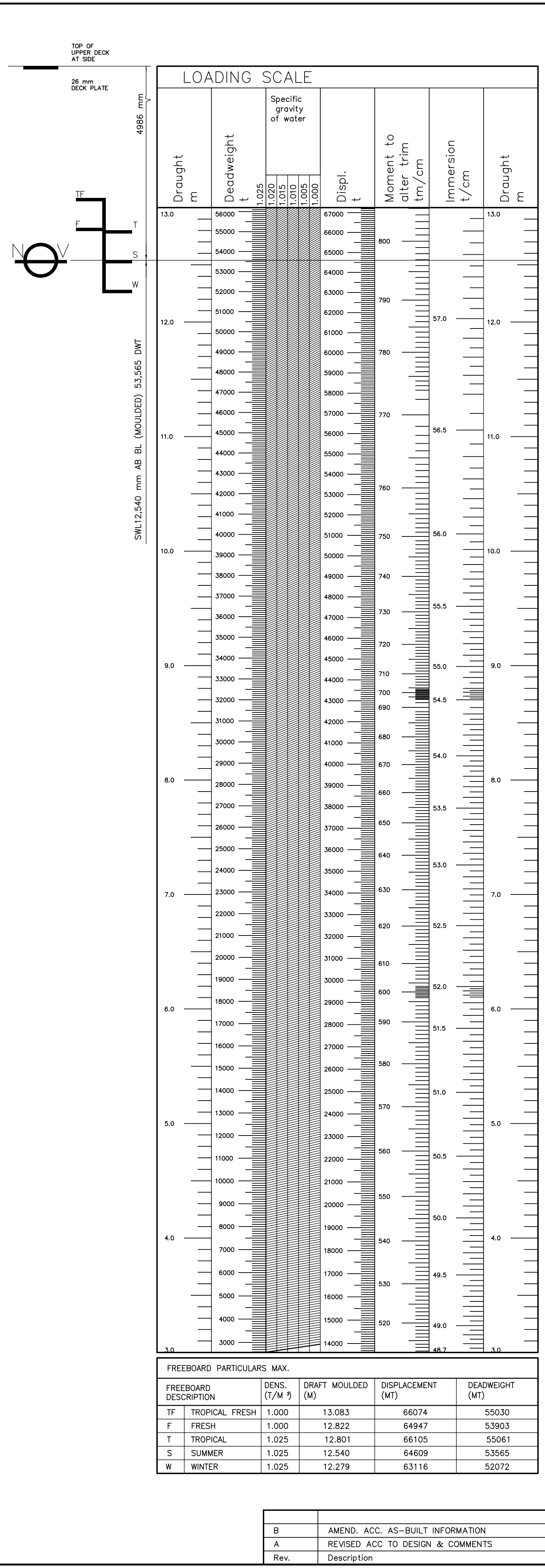
CARGOES

UN NO.	CARGO	IMO CLASS	HOLD	NOTE
1395	ALUMINIUM NITRATE	5.1	1-5	
1438	AMMONIUM NITRATE	5.1	1-5	2, 3
2067	AMMONIUM NITRATE FERTILIZER, TYPE A	5.1	1-5	2, 3
2068	AMMONIUM NITRATE FERTILIZER, TYPE B	5.1	1-5	2, 3
2071	AMMONIUM NITRATE FERTILIZER, TYPE B	9	1-5	2, 3
1446	BARIUM NITRATE	MHB	1-5	
1454	CALCINED PYRITES (PYRITIC ASH, FLY ASH)	MHB	1-5	
1454	CALCIUM NITRATE	5.1	1-5	
2969	CASTOR BEANS	MHB	1-5	
	CHARCOAL	MHB	1-5	
	COAL	MHB	1-5	1, 3
1363	CORSA	4.2	1-5	
	DIRECT REDUCED IRON, BRIQUETTES, HOT MOULDED	MHB	1-5	
2793	FERROUS METAL, BORINGS, SHAVINGS, CUTTING ETC.	4.2	1-5	
2216	FISONSAL FLUOROSPAR (CALCIUM FLUORIDE)	MHB	1-5	3
1376	IRON OXIDE, IRON SPONGE, SPENT	4.2	1-5	
1469	LEAD NITRATE	MHB	1-5	
	LIME (UNSLAKED)	MHB	1-5	
	MAGNESIA (UNSLAKED)	MHB	1-5	
1474	MAGNESIUM NITRATE	MHB	1-5	
	METAL SULPHIDE CONCENTRATES	5.1	1-5	
	PEAT MOSS	MHB	1-5	
	PETROLEUM COKE CALCINED OR UNCALCINED	MHB	1-5	
	PITCH, PRL., PULLED COAL TAR, PENCIL PITCH	MHB	1-5	
1486	POTASSIUM NITRATE (SALTPETRE)	MHB	1-5	
2912	RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY MATERIAL (LSA-1)	7	1-5	
2913	RADIOACTIVE MATERIAL, SURFACE CONTAMINATED OBJECTS (SCO-1)	7	1-5	
	SAWDUST	MHB	1-5	
1498	SODIUM NITRATE (CHILE SALTPETRE)	5.1	1-5	
1499	SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE	5.1	1-5	
	TANKAGE (GARBAGE TANKAGE, ROUGH AMMONIA TANKAGE, TANKAGE FERTILIZER)	MHB	1-5	
	WOOD CHIPS	MHB	1-5	
	WOOD PULP PELLETS	MHB	1-5	
	SULPHUR (LUMP OR COARSE GRANED)	4.1	1-5	2, 3
	VANADIUM ORE	MHB	1-5	

TANK CAPACITIES

NOTES TO TANK CAPACITY LIST:
 2% STEEL REDUCTION IN ALL TANKS
 REFERENCE POINT FOR LCG IS FRAME 0
 REFERENCE POINT FOR VCG IS S.L.L.
 REFERENCE POINT FOR TCG IS S.L.L., STARBOARD SIDE NEGATIVE

NO	CARGO HOLDS	FRAME NO.	HATCH EXT. NO.	NET. VOL.	LCG	TCG	VCG	GRAIN MOMENT
				M	100 %	98 %	M	M
CH1	NO. 1 CARGO HOLD	180-219	-	12437.9	12189.1	158.60	0.00	10.12
CH2	NO. 2 CARGO HOLD	144-181	-	13347.0	13090.0	130.02	0.00	10.21
CH3	NO. 3 CARGO HOLD	108-145	-	13348.7	13081.8	101.22	0.00	10.21
CH4	NO. 4 CARGO HOLD	72-109	-	13346.9	13080.0	72.42	0.00	10.21
CH5	NO. 5 CARGO HOLD	34-73	-	13271.5	13006.1	43.26	0.00	10.52
TOTAL CARGO HOLDS				65752.0	64437.0			
TANK CAPACITIES								
TANK MARKS ON HULL	FRAME NO.	HEIGHT	NET. VOL.	LCG	TCG	VCG	F.S. MOMENT	
WATER BALLAST				M	100 %	98 %	M	M
FWT	FORE PEAK WB TANK	219-233	S-17.5	1874.3	1836.8	179.02	0.00	9.30
DB1P	NO. 1 DB WB TANK P	182-219	S-1.8	245.5	240.6	157.12	5.15	0.91
DB1S	NO. 1 DB WB TANK S	182-219	S-1.8	245.5	240.6	157.12	-5.15	0.91
WT1P	NO. 1 WING WB TANK P	181-219	S-17.5	1066.9	1045.5	158.82	12.75	7.18
WT1S	NO. 1 WING WB TANK S	181-219	S-17.5	1066.9	1045.5	158.82	-12.75	7.18
DB2P	NO. 2 DB WB TANK P	146-182	S-1.8	607.7	595.6	132.91	7.49	1.24
DB2S	NO. 2 DB WB TANK S	146-182	S-1.8	607.7	595.6	132.91	-7.49	1.24
WT2P	NO. 2 WING WB TANK P	145-182	S-17.5	1008.5	988.3	130.60	14.86	8.90
WT2S	NO. 2 WING WB TANK S	145-182	S-17.5	1008.5	988.3	130.60	-14.86	8.90
DB3P	NO. 3 DB WB TANK P	110-146	S-1.8	607.7	595.6	104.11	7.49	1.24
DB3S	NO. 3 DB WB TANK S	110-146	S-1.8	607.7	595.6	104.11	-7.49	1.24
WT3P	NO. 3 WING WB TANK P	109-146	S-17.5	1009.8	989.6	101.82	14.86	8.89
WT3S	NO. 3 WING WB TANK S	109-146	S-17.5	1009.8	989.6	101.82	-14.86	8.89
DB4P	NO. 4 DB WB TANK P	74-110	S-1.8	607.7	595.6	75.31	7.49	1.24
DB4S	NO. 4 DB WB TANK S	74-110	S-1.8	607.7	595.6	75.31	-7.49	1.24
WT4P	NO. 4 WING WB TANK P	73-110	S-17.5	998.1	978.2	73.13	14.85	8.98
WT4S	NO. 4 WING WB TANK S	73-110	S-17.5	998.1	978.2	73.13	-14.85	8.98
DB5P	NO. 5 DB WB TANK P	34-74	S-1.8	435.1	426.4	49.43	6.38	1.38
DB5S	NO. 5 DB WB TANK S	34-74	S-1.8	435.1	426.4	49.43	-6.38	1.38
WT5P	NO. 5 WING WB TANK P	34-74	S-13.5	844.2	827.3	41.00	12.97	5.76
WT5S	NO. 5 WING WB TANK S	34-74	S-13.5	844.2	827.3	41.00	-12.97	5.76
CHWA-P	CARGO HOLD WASH WATER-P	34-74	13.5-17.5	376.6	369.1	42.71	14.54	15.71
CHWA-S	CARGO HOLD WASH WATER-S	34-74	13.5-17.5	376.6	369.1	42.71	-14.54	15.71
AFT	AFT PEAK WB TANK	(-5)-10	5.5-13.5	642.2	629.4	2.33	0.00	11.53
CH3	CARGO HOLD 3 (LOW HOLD)	108-145	1.8-19.8	13348.7	13081.8	101.22	0.00	10.21
TOTAL WATER BALLAST				31480.6	30851.0			
TANK MARKS ON HULL	FRAME NO.	HEIGHT	NET. VOL.	LCG	TCG	VCG	F.S. MOMENT	
FRESH WATER				M	100 %	98 %	M	M
FWP	FW TANK P	(-5)-2	13.5-17.5	119.5	117.1	-0.81	8.22	15.85
FWS	FW TANK S	(-5)-2	13.5-17.5	119.5	117.1	-0.81	-8.22	15.85
TOTAL FRESH WATER				239.1	234.3			
TANK MARKS ON HULL	FRAME NO.	HEIGHT	NET. VOL.	LCG	TCG	VCG	F.S. MOMENT	
HEAVY FUEL OIL				M	100 %	98 %	M	M
HO1P	NO. 1 HFO DEEP TANK P	27-33	6.2-17.5	433.9	425.3	23.89	9.91	12.56
HO1S	NO. 1 HFO DEEP TANK S	27-33	6.2-17.5	434.3	425.7	24.07	-10.62	12.31
HO2P	NO. 2 HFO DEEP TANK P	14-27	6.2-17.5	533.2	522.5	17.92	9.46	12.38
HO2S	NO. 2 HFO DEEP TANK S	14-27	6.2-17.5	533.2	522.5	17.92	-9.93	12.39
HOSE1	NO. 1 HFO SERVICE TANK	27-29	9.0-17.5	45.2	44.3	22.40	-7.19	13.50
HOSE2	NO. 2 HFO SERVICE TANK	25-27	9.0-17.5	45.2	44.3	20.80	-7.19	13.50
HOSET1	NO. 1 HFO SETTLING TANK	29-31	9.0-17.5	45.2	44.3	4.00	-7.19	13.50
HOSET2	NO. 2 HFO SETTLING TANK	23-25	9.0-17.5	45.2	44.3	19.20	-7.19	13.50
HOVO	HFO OVER FLOW TANK	22-33	2.15	38.5	37.7	22.69	-3.19	1.31
TOTAL HEAVY FUEL OIL				2003.9	1963.9			
TANK MARKS ON HULL	FRAME NO.	HEIGHT	NET. VOL.	LCG	TCG	VCG	F.S. MOMENT	
DIESEL OIL				M	100 %	98 %	M	M
DO5	DO DEEP TANK S	14-21	13.5-17.5	166.4	163.1	14.20	-11.77	15.65
DOSET	DO SETTLING TANK	16-18	13.5-17.5	22.6	22.2	12.00	-7.19	15.75
DOSE1	NO. 2 DO SERVICE TANK	14-16	13.5-17.5	22.6	22.2	12.00	-7.19	15.75
DOSE1	NO. 1 DO SERVICE TANK	18-20	13.5-17.5	22.6	22.2	15.20	-7.19	15.75
TOTAL DIESEL OIL				234.2	229.6			
TANK MARKS ON HULL	FRAME NO.	HEIGHT	NET. VOL.	LCG	TCG	VCG	F.S. MOMENT	
LUBE OIL TANKS				M	100 %	98 %	M	M
LOST1	NO. 1 ME LO STOR. TANK	9-9	9.0-13.5	17.1	16.8	6.81	-8.43	11.77
LOST2	NO. 2 ME LO STOR. TANK	9-10	9.0-13.5	18.7	18.4	7.61	-8.57	11.89
CYL1	NO. 1 CYL.OL. STOR.TK.	10-11	9.0-13.5	20.2	19.8	8.4	-8.72	11.63
CYL2	NO. 2 CYL.OL. STOR.TK.	11-13	9.0-13.5	44.4	43.6	9.62	-8.94	11.56
SUMP	LO SUMP TANK	18-27	0.9-2.15	16.1	15.8	18.00	0.00	1.31
LO AUX1	NO. 1 LO A/E TANK	2-3	13.5-17.5	4.3	4.2	2.00	-3.2	15.65
LO AUX2	NO. 2 LO A/E TANK	2-3	13.5-17.5	4.3	4.2	2.00	-4.8	15.65
LOS	LO STERN TUBE TANK	1-2	15.5-17.5	2.0	2.0	1.20	2.39	14.80
CYL51	NO. 1 CYL.OL. SER.TK.	33-34	13.5-16.5	0.8	0.7	26.20	2.8	14.50
CYL52	NO. 2 CYL.OL. SER.TK.	33-34	13.5-16.5	0.8	0.7	26.20	3.6	14.50
TOTAL LUBE OIL TANKS				128.7	126.1			
TANK MARKS ON HULL	FRAME NO.	HEIGHT	NET. VOL.	LCG	TCG	VCG	F.S. MOMENT	
MISCELLANEOUS WATER TANKS				M	100 %	98 %	M	M
BWH	BILGE WATER HOLDING TK.	24-34	S-2.15	35	34.3	23.4	3.18	1.27
FWO	FRESH WATER TANK	13-17	S-2.15	17.4	17.1	11.95	-0.18	1.34
SCW	SEWAGE HOLDING TANK	8-14	9.0-13.5	124.6	122.1	8.96	8.82	11.61
FWDR	FW DRAIN TANK	16-17	S-2.15	3.1	3.0	13.21	1.03	1.28
STC	STERN COOLING WATER TK	7-10	S-5.5	8.8	8.6	7.26	-0.00	3.23
TOTAL MISCELLANEOUS WATER TANKS				188.9	185.2			
TANK MARKS ON HULL	FRAME NO.	HEIGHT	NET. VOL.	LCG	TCG	VCG	F.S. MOMENT	
MISCELLANEOUS OIL TANKS				M	100 %	98 %	M	M
HOOR	HFO DRAIN TANK	18-22	S-2.15	4.9	4.8	16.23	-2.45	1.5
SLUD	SLUDGE OIL TANK	18-24	S-2.15	9.1	8.9	17.25	2.56	1.46
STDR	STERN TUBE DRAIN TANK	10-12	S-2.15	4.5	4.4	8.89	0.00	1.58
TOTAL MISCELLANEOUS OIL TANKS				18.5	18.1			



16 BC-A LOADING CONDITIONS

This section contains summary of BC-A required loading conditions.
Please note the below conditions are only strength conditions, not sea going.

B-01 Light Ballast – 100% Departure	1
B-02 Light Ballast – 10% Arrival	9
B-03 Heavy Ballast – 100% Departure	17
B-04 Heavy Ballast – 10% Arrival	25
B-05 Homogeneous Cargo all Holds 3.0 ton / m ³ – 100% Departure	33
B-06 Homogeneous Cargo all Holds 3.0 ton / m ³ – 10% Arrival	41
B-07 Hold no. 1,3 and 5 with cargo 3.00 t/m ³ – 100% Departure	49
B-08 Hold no. 1,3 and 5 with cargo 3.00 t/m ³ – 10% Arrival	57
B-09 Hold no. 1,2,4 and 5 with cargo 1.35 t/m ³ – 100% Departure	65
B-10 Hold no. 1,2,4 and 5 with cargo 1.35 t/m ³ – 10% Arrival	73

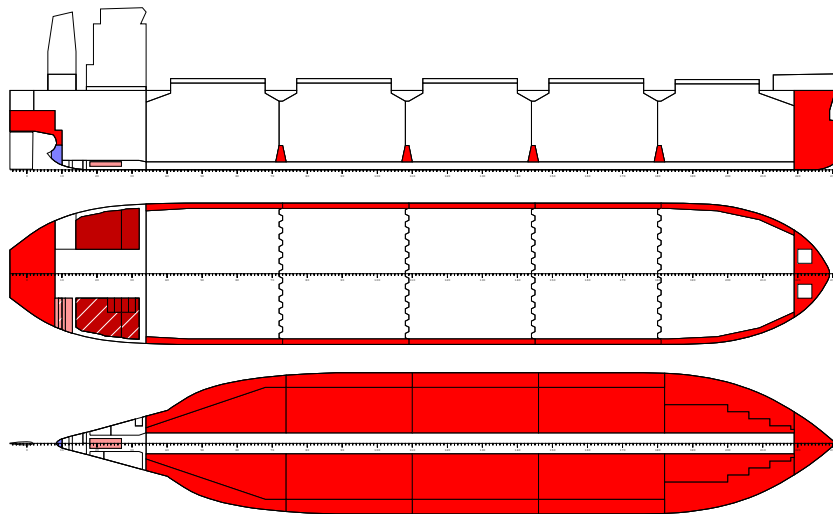
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*01, LIGHT BALLAST - DEP 100 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	32071 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	4.42 m		
Draught aft (below keel)	9.15 m		
Mean draught (below keel)	6.78 m	Trim	4.73 m
KM above the moulded base	16.92 m		
KG0 (solid)	8.96 m	GM0 (solid)	7.96 m
Free surface correction	0.07 m		-0.07 m
KG (fluid)	9.03 m	GM (fluid)	7.89 m
Actual heel	-0.63 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm
CONTENTS=Solid Cargo (RHO=0.772)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0
TOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	1035.0	100	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	1023.1	100	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	1023.1	100	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	446.0	100	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	446.0	100	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	865.3	100	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	865.3	100	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	386.0	100	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	386.0	100	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	0

SUBTOTAL		18585.2		104.35	0.00	6.71	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	21026.6	94.25	-0.15	7.44
Total weight	32070.7	90.75	-0.10	8.96

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.86

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 14.54 M

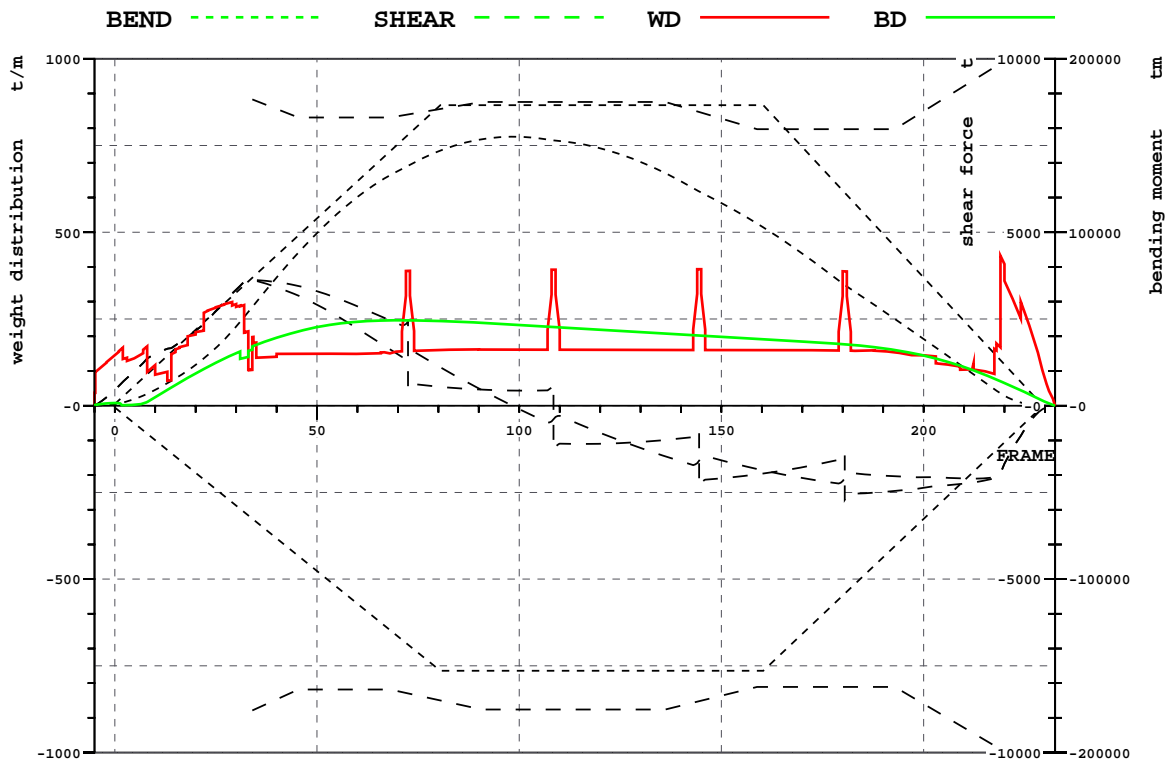
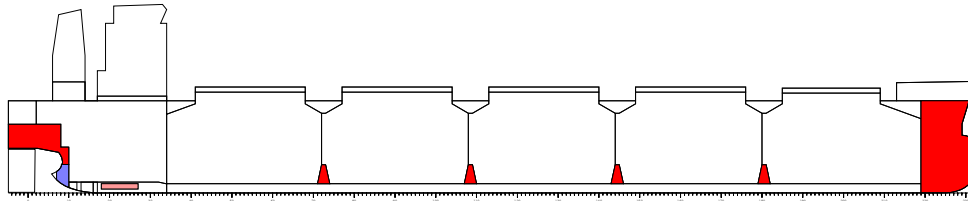
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 14.03 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 13.29 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 12.54 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 11.80 M

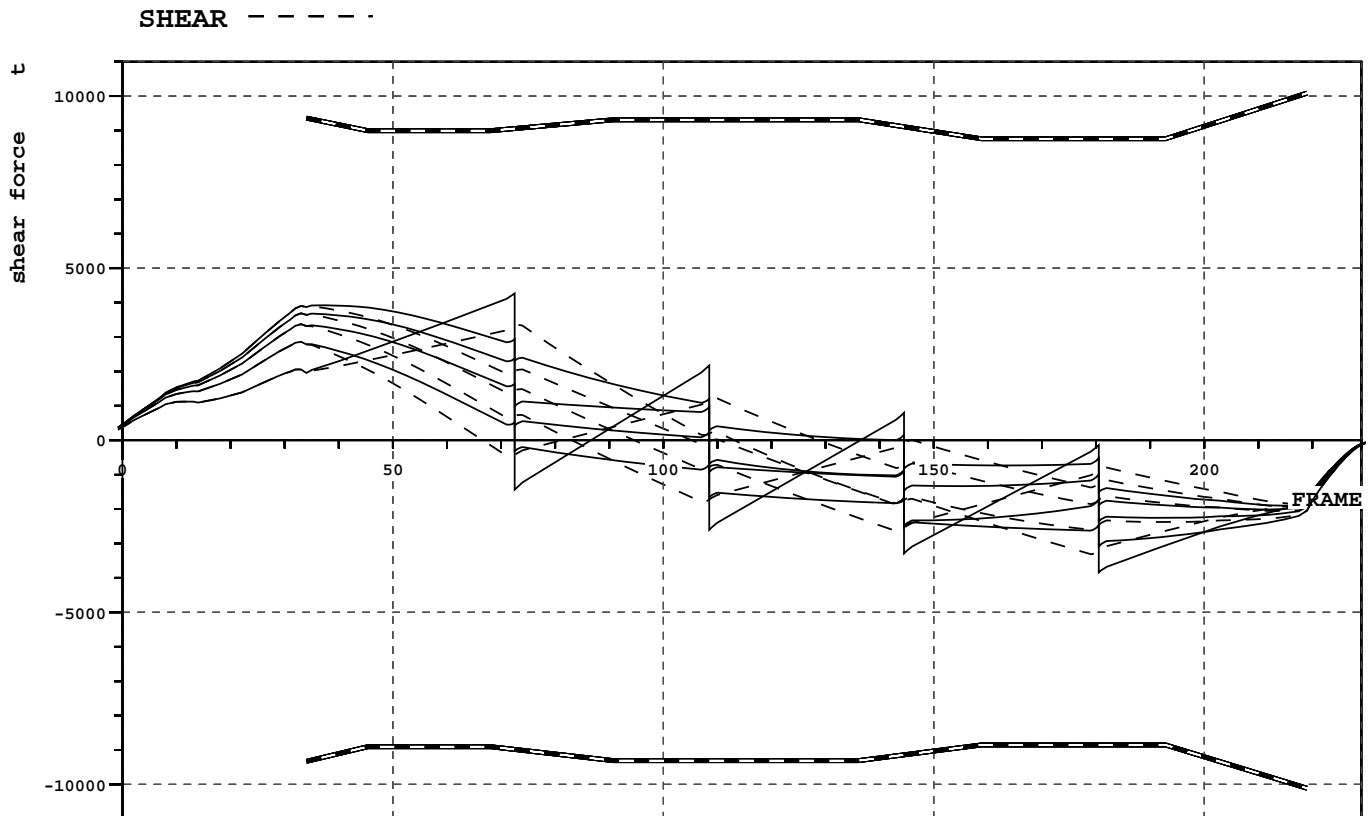
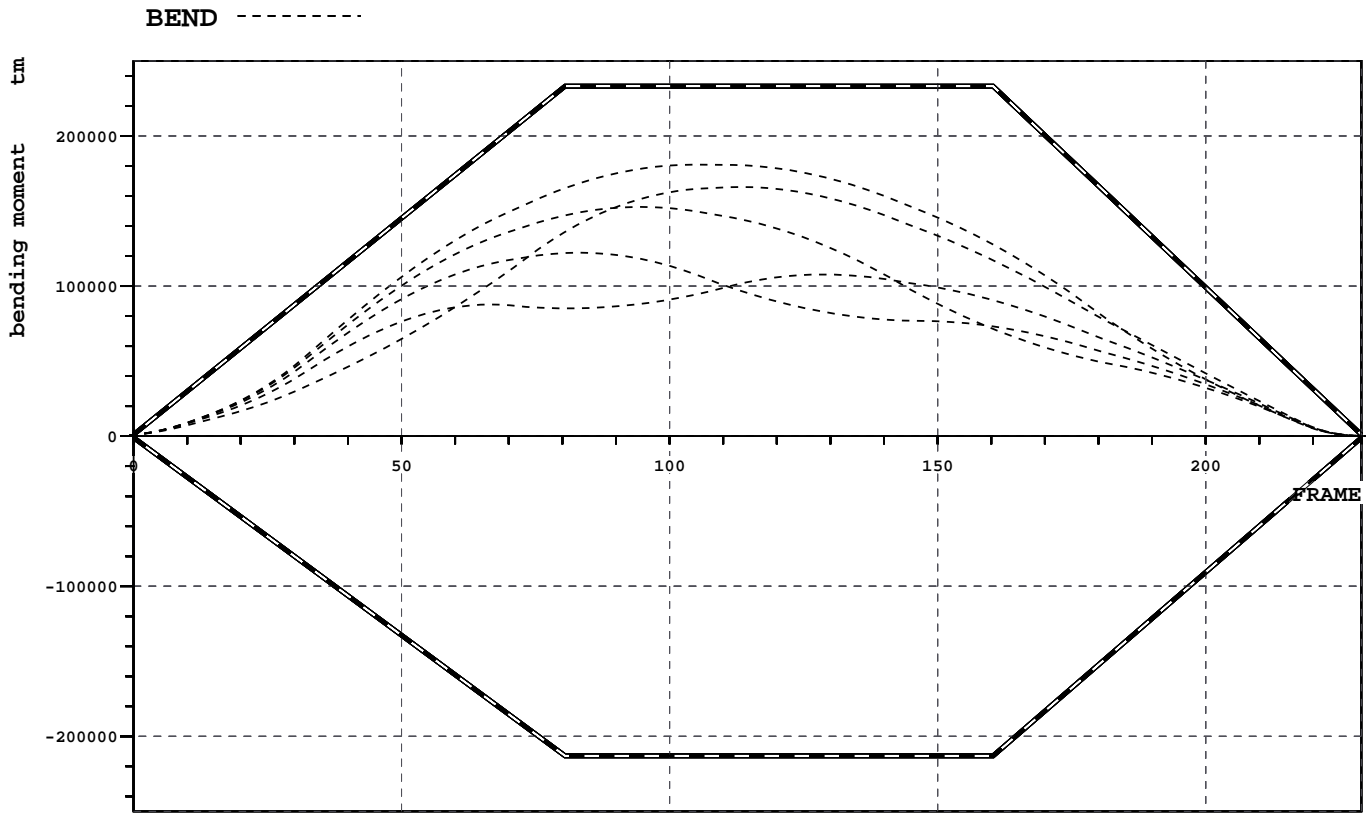
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-2717.1 t	(33.5%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	3631.8 t	(41.1%)	26.4 m	33
SAGGING MOMENT	-14.5 tm	(1.5%)	184.9 m	231
HOGGING MOMENT	155072.9 tm	(89.5%)	79.0 m	99

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	56931	73770	-8786	3586	3586	8830
72.50	-137807	138234	156169	-8294	1479	2425	8395
72.50	-137811	138237	156173	-8294	1479	465	8395
108.50	-152905	152955	173293	-8758	-390	624	8758
108.50	-152905	152955	173293	-8758	-390	-1269	8758
144.50	-152905	123481	173293	-8517	-1582	-703	8468
144.50	-152905	123478	173293	-8517	-1582	-2327	8467
180.50	-108361	69592	122770	-8106	-2094	-1349	7971
180.50	-108357	69588	122765	-8106	-2093	-2717	7971
219.00	-23246	7144	26231	-9904	-1955	-1955	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3842.5 t (43.4%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	3921.7 t (42.3%)		29.7 m 37
SAGGING MOMENT	-0.5 tm (0.1%)		-3.8 m -5
HOGGING MOMENT	180976.4 tm (77.6%)		84.1 m 105

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3294.3 t (36.0%)	POSITION:	115.6 m 145
SHEAR FORCE (MAX,CORR)	3685.7 t (39.4%)		26.4 m 33
SAGGING MOMENT	-		
HOGGING MOMENT	152757.1 tm (65.5%)		75.7 m 95

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2603.0 t (28.0%)	POSITION:	86.8 m 109
SHEAR FORCE (MAX,CORR)	3372.3 t (36.0%)		26.4 m 33
SAGGING MOMENT	-0.9 tm (0.1%)		185.6 m 232
HOGGING MOMENT	122231.2 tm (52.4%)		66.4 m 83

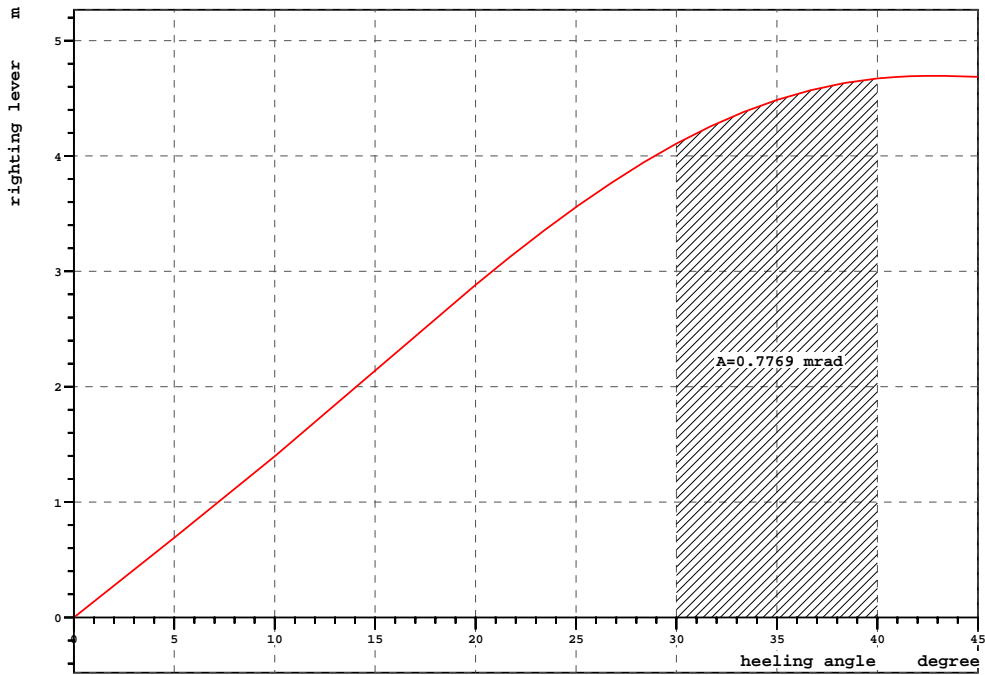
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2363.8 t (26.7%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	2860.4 t (30.6%)		26.4 m 33
SAGGING MOMENT	-3.2 tm (0.3%)		185.3 m 232
HOGGING MOMENT	107714.3 tm (46.2%)		103.1 m 129

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3092.0 t (34.9%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	4263.7 t (47.1%)		58.0 m 73
SAGGING MOMENT	-9.9 tm (1.0%)		185.1 m 231
HOGGING MOMENT	166021.7 tm (71.2%)		90.8 m 113

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.112	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.889	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.777	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.695	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	42.855	deg	OK
GM0.15	GM > 0.15 m	0.150	7.891	m	OK
IMOWEATHER	IMO weather criterion	1.000	3.005		OK
GMD	GM > 1.20 m ref. damage stability	1.200	7.891	m	OK

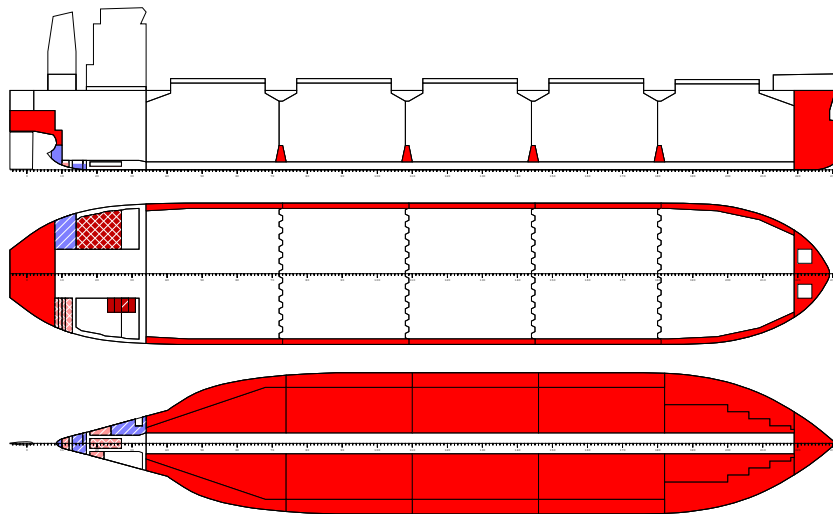
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*02, LIGHT BALLAST - ARR 10 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	30021 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	5.21 m		
Draught aft (below keel)	7.49 m		
Mean draught (below keel)	6.35 m	Trim	2.28 m
KM above the moulded base	17.14 m		
KG0 (solid)	8.67 m	GM0 (solid)	8.48 m
Free surface correction	0.06 m		-0.06 m
KG (fluid)	8.72 m	GM (fluid)	8.42 m
Actual heel	-0.07 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.772)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	1035.0	100	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	1023.1	100	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	1023.1	100	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	446.0	100	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	446.0	100	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	865.3	100	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	865.3	100	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	386.0	100	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	386.0	100	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	0

SUBTOTAL		18585.2		104.35	0.00	6.71	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	18976.8	102.55	-0.03	6.81
Total weight	30020.9	95.76	-0.02	8.67

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.42

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 14.09 M

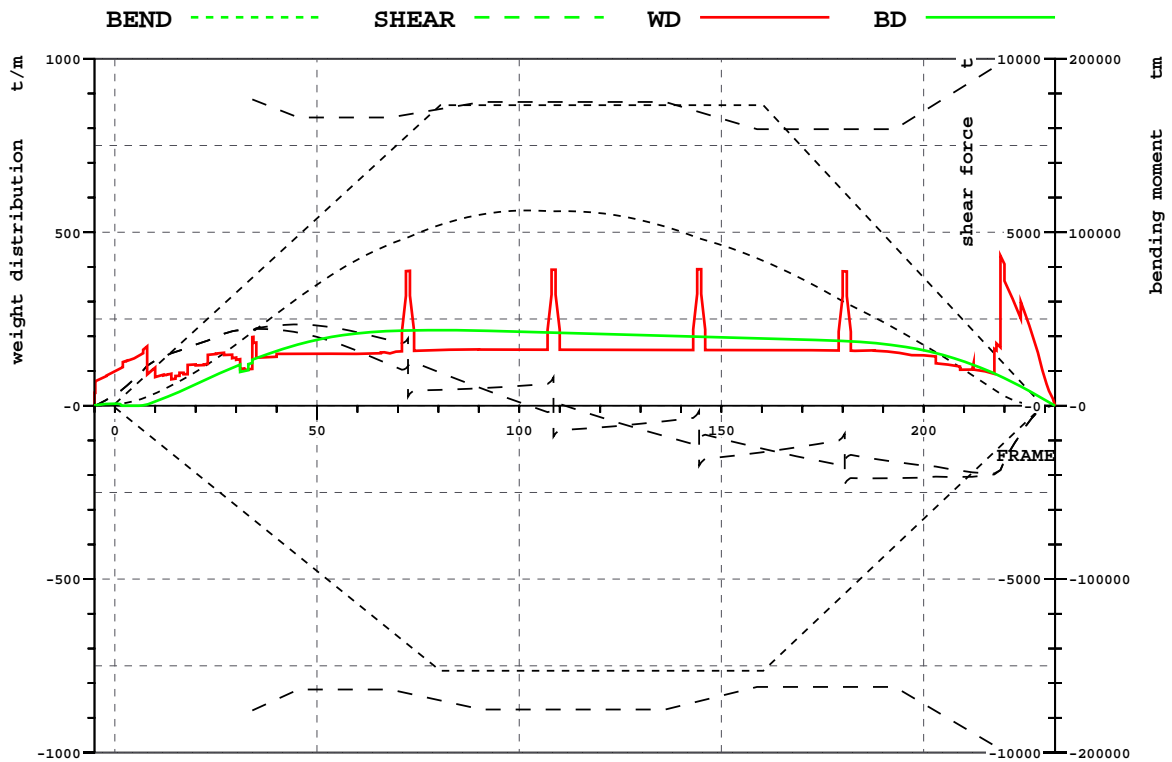
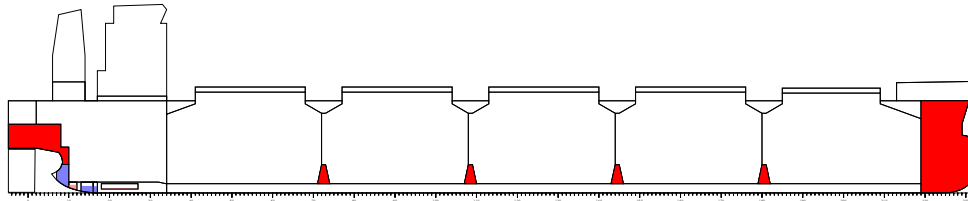
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 13.95 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 13.59 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 13.23 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 12.87 M

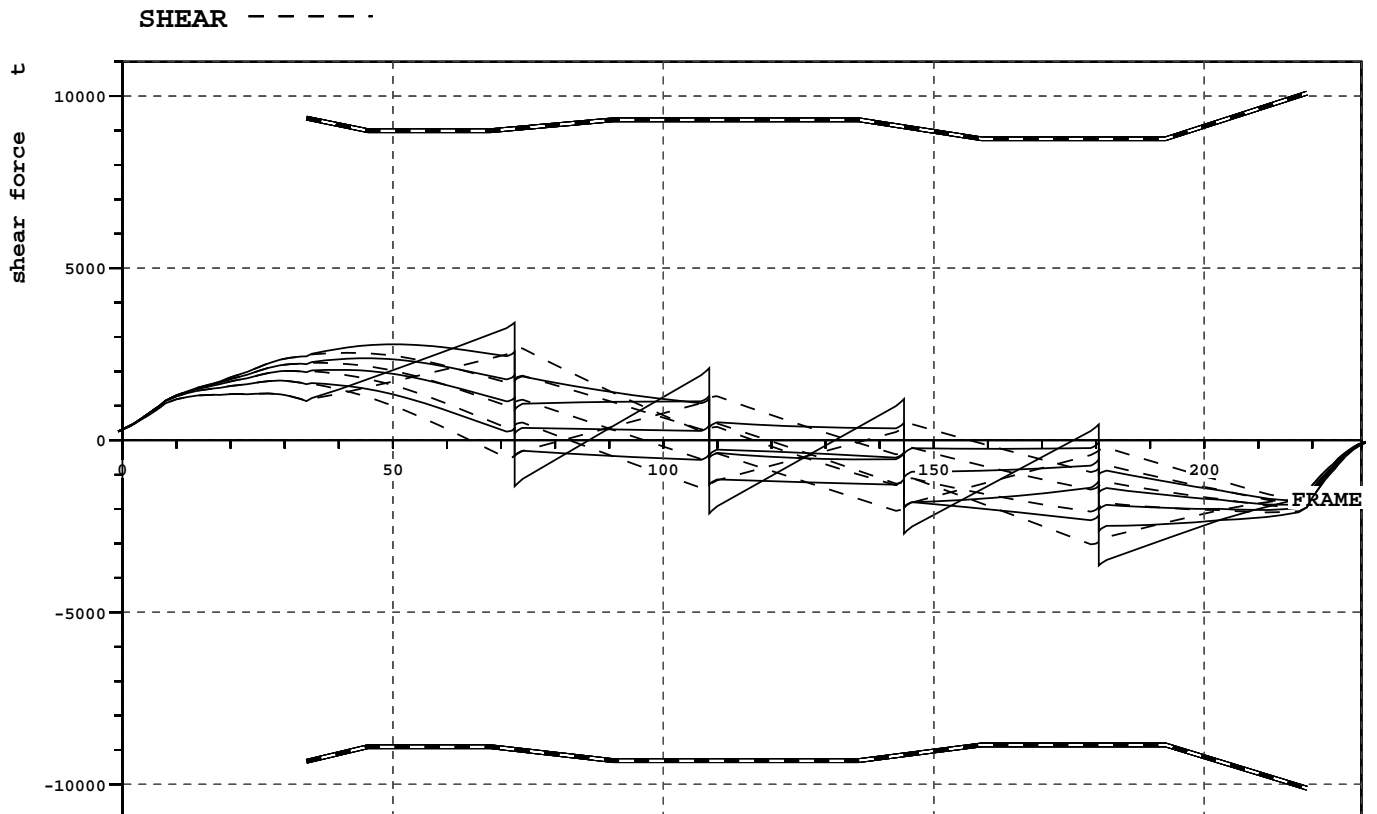
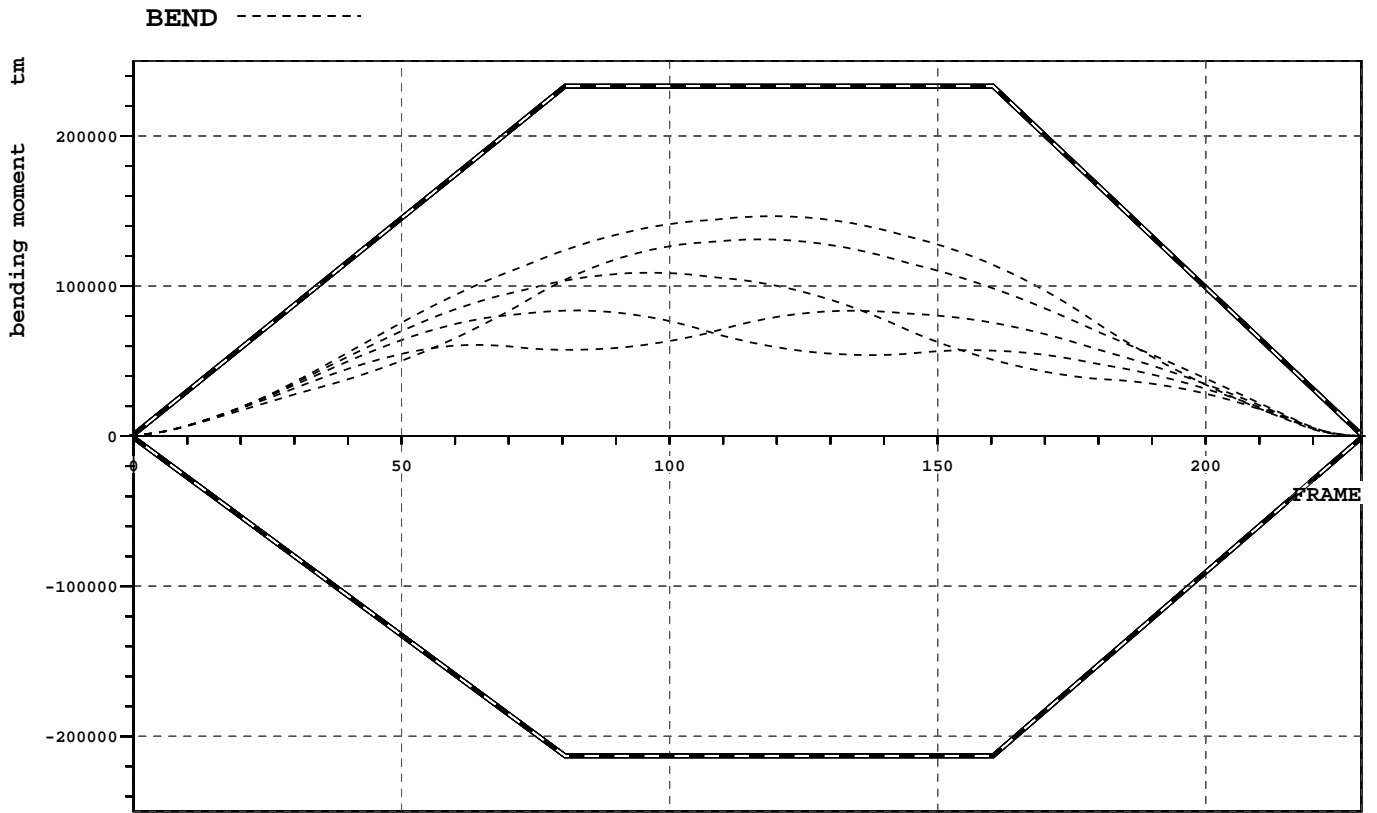
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-2255.6 t	(27.8%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2342.2 t	(28.2%)	36.2 m	45
SAGGING MOMENT	-3.1 tm	(0.3%)	185.3 m	232
HOGGING MOMENT	112592.5 tm	(65.0%)	82.1 m	103

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	42330	73770	-8786	2173	2173	8830
72.50	-137807	97089	156169	-8294	1144	1940	8395
72.50	-137811	97091	156173	-8294	1144	255	8395
108.50	-152905	112100	173293	-8758	-69	820	8758
108.50	-152905	112100	173293	-8758	-69	-893	8758
144.50	-152905	96508	173293	-8517	-973	-148	8468
144.50	-152905	96507	173293	-8517	-972	-1732	8467
180.50	-108361	59524	122770	-8106	-1563	-803	7971
180.50	-108357	59522	122765	-8106	-1562	-2256	7971
219.00	-23246	6870	26231	-9904	-1855	-1855	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3641.3 t (41.1%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	2787.6 t (31.0%)		39.9 m 50
SAGGING MOMENT	-1.8 tm (0.2%)		-3.8 m -5
HOGGING MOMENT	146576.2 tm (62.9%)		95.2 m 119

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2716.4 t (29.7%)	POSITION:	115.6 m 145
SHEAR FORCE (MAX,CORR)	2384.3 t (26.4%)		35.8 m 45
SAGGING MOMENT	-0.9 tm (0.1%)		-3.8 m -5
HOGGING MOMENT	108875.9 tm (46.7%)		76.9 m 96

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2127.5 t (22.9%)	POSITION:	86.8 m 109
SHEAR FORCE (MAX,CORR)	2045.9 t (22.2%)		31.1 m 39
SAGGING MOMENT	-0.4 tm (0.0%)		-3.8 m -5
HOGGING MOMENT	83725.4 tm (35.9%)		66.1 m 83

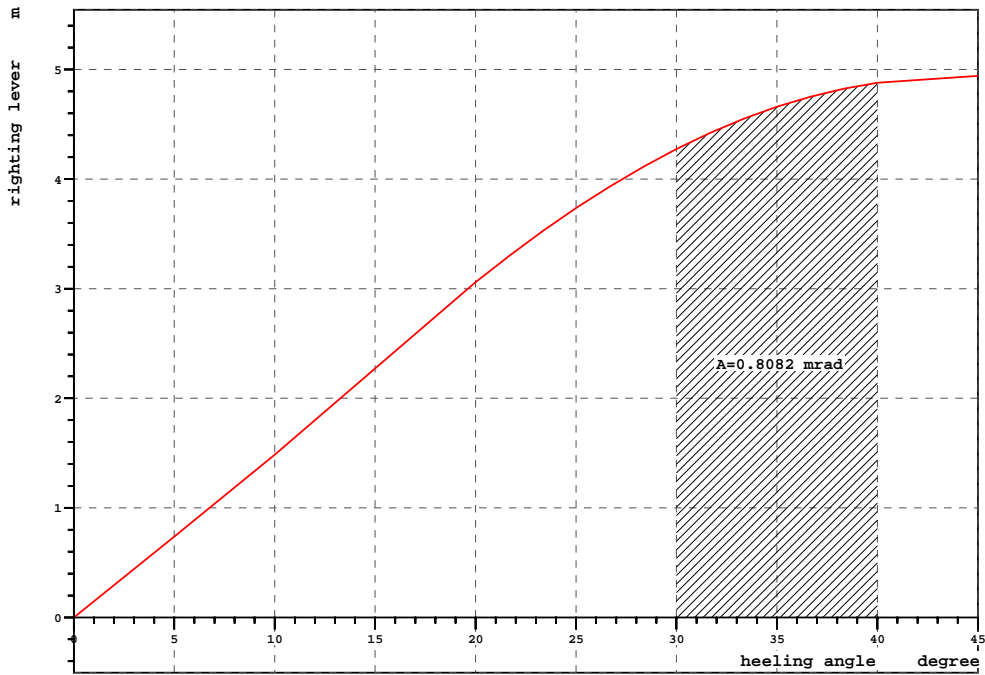
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2028.8 t (20.8%)	POSITION:	168.9 m 211
SHEAR FORCE (MAX,CORR)	2095.4 t (22.5%)		86.8 m 108
SAGGING MOMENT	-		
HOGGING MOMENT	83554.3 tm (35.8%)		107.5 m 134

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-2644.0 t (29.9%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	3417.5 t (37.7%)		58.0 m 73
SAGGING MOMENT	-1.7 tm (0.2%)		185.6 m 232
HOGGING MOMENT	131148.9 tm (56.2%)		93.4 m 117

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.173	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.981	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.808	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.942	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	8.417	m	OK
IMOWEATHER	IMO weather criterion	1.000	2.833		OK
GMD	GM > 1.20 m ref. damage stability	1.200	8.417	m	OK

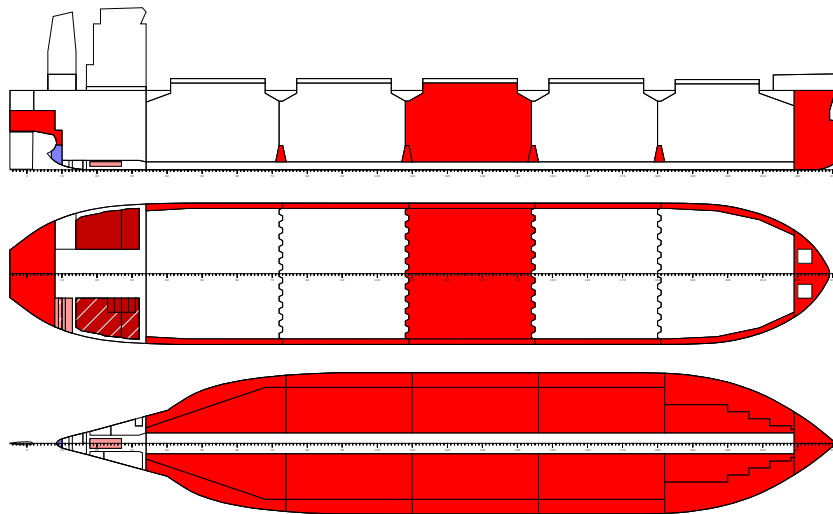
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*03, HEAVY BALLAST - DEP 100 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	45753 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	7.67 m		
Draught aft (below keel)	10.79 m		
Mean draught (below keel)	9.23 m	Trim	3.12 m
KM above the moulded base	14.61 m		
KG0 (solid)	9.33 m	GM0 (solid)	5.27 m
Free surface correction	0.05 m		-0.05 m
KG (fluid)	9.38 m	GM (fluid)	5.23 m
Actual heel	-0.67 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.772)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	13682.4	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		13682.4		101.22	0.00	10.21	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	1035.0	100	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	1023.1	100	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	1023.1	100	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	446.0	100	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	446.0	100	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	865.3	100	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	865.3	100	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	386.0	100	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	386.0	100	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	0

SUBTOTAL		18585.2		104.35	0.00	6.71	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	34709.1	97.00	-0.09	8.53
Total weight	45753.2	93.88	-0.07	9.33

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DIAMOND 53
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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.32

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 11.52 M

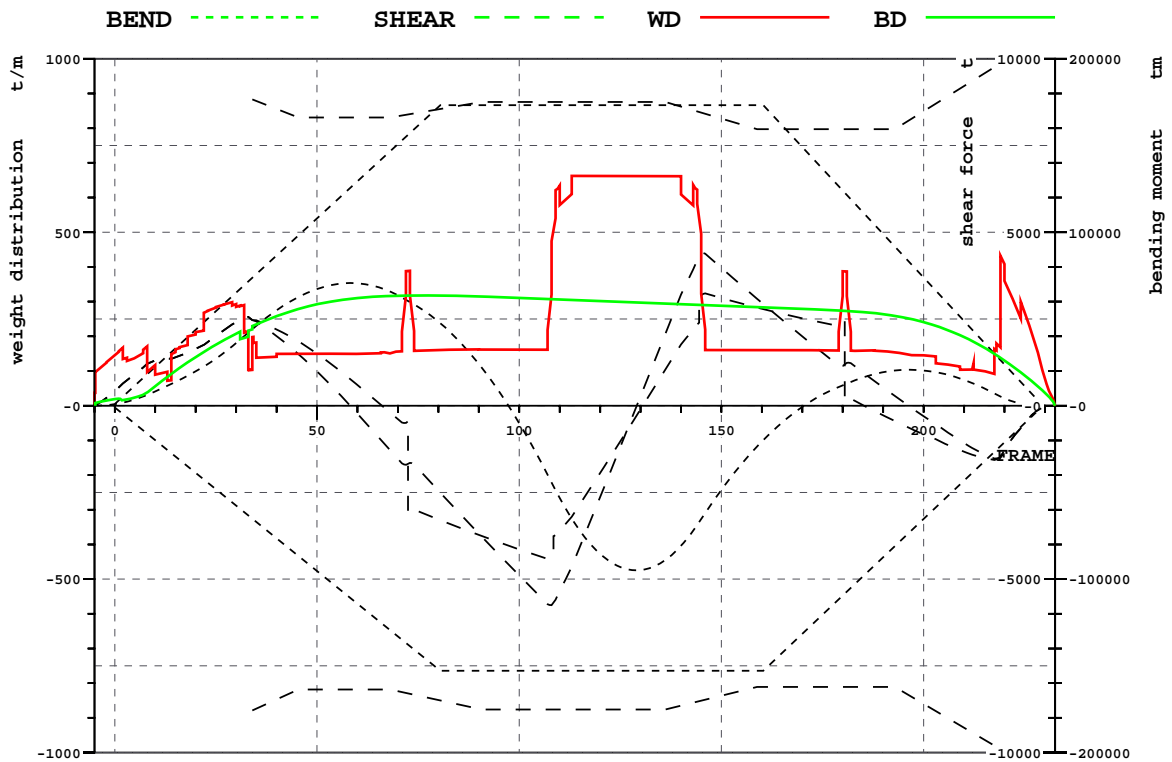
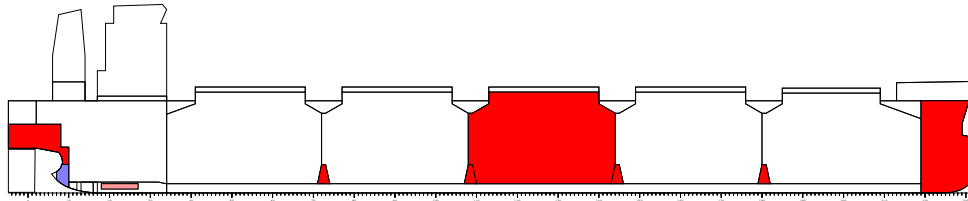
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 11.25 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 10.75 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 10.26 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 9.77 M

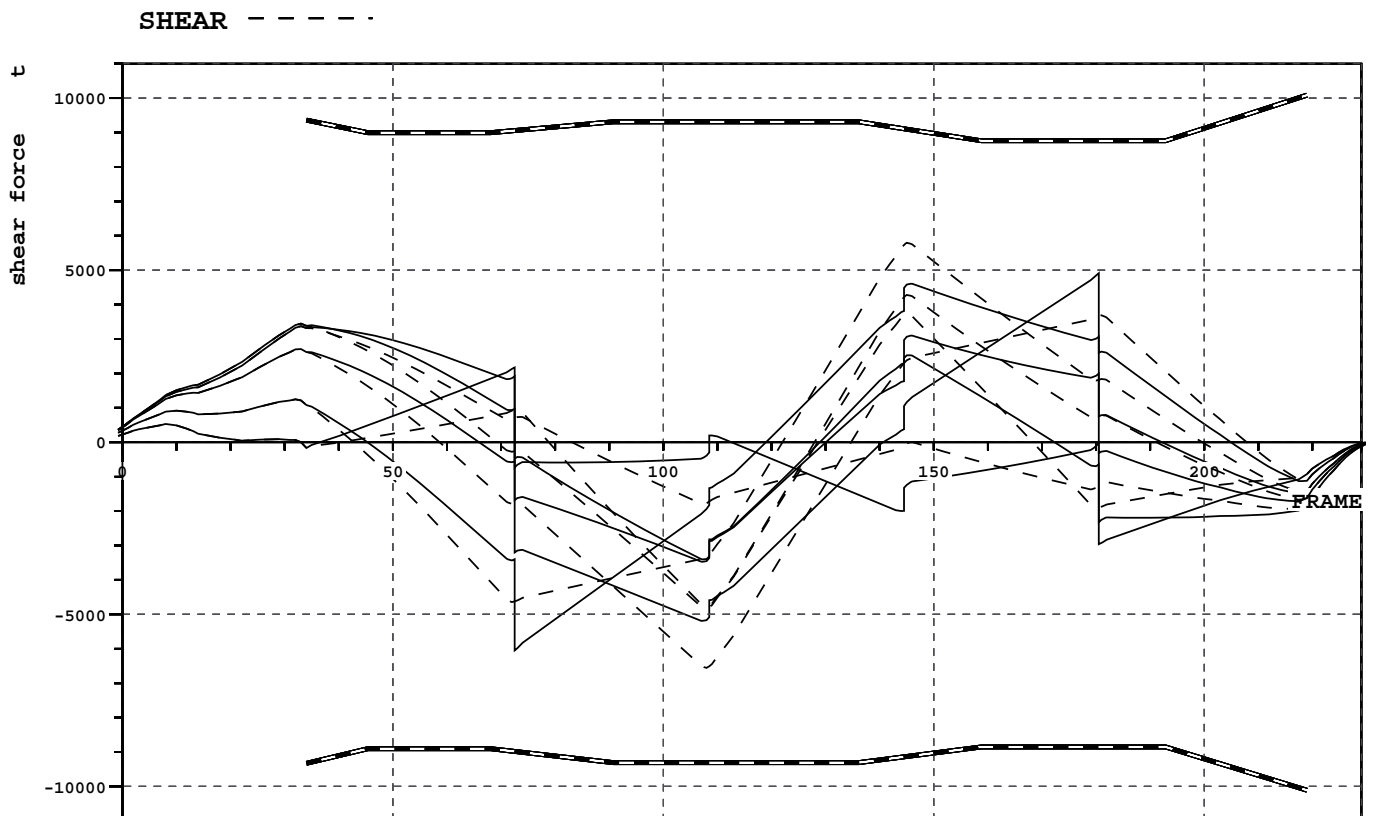
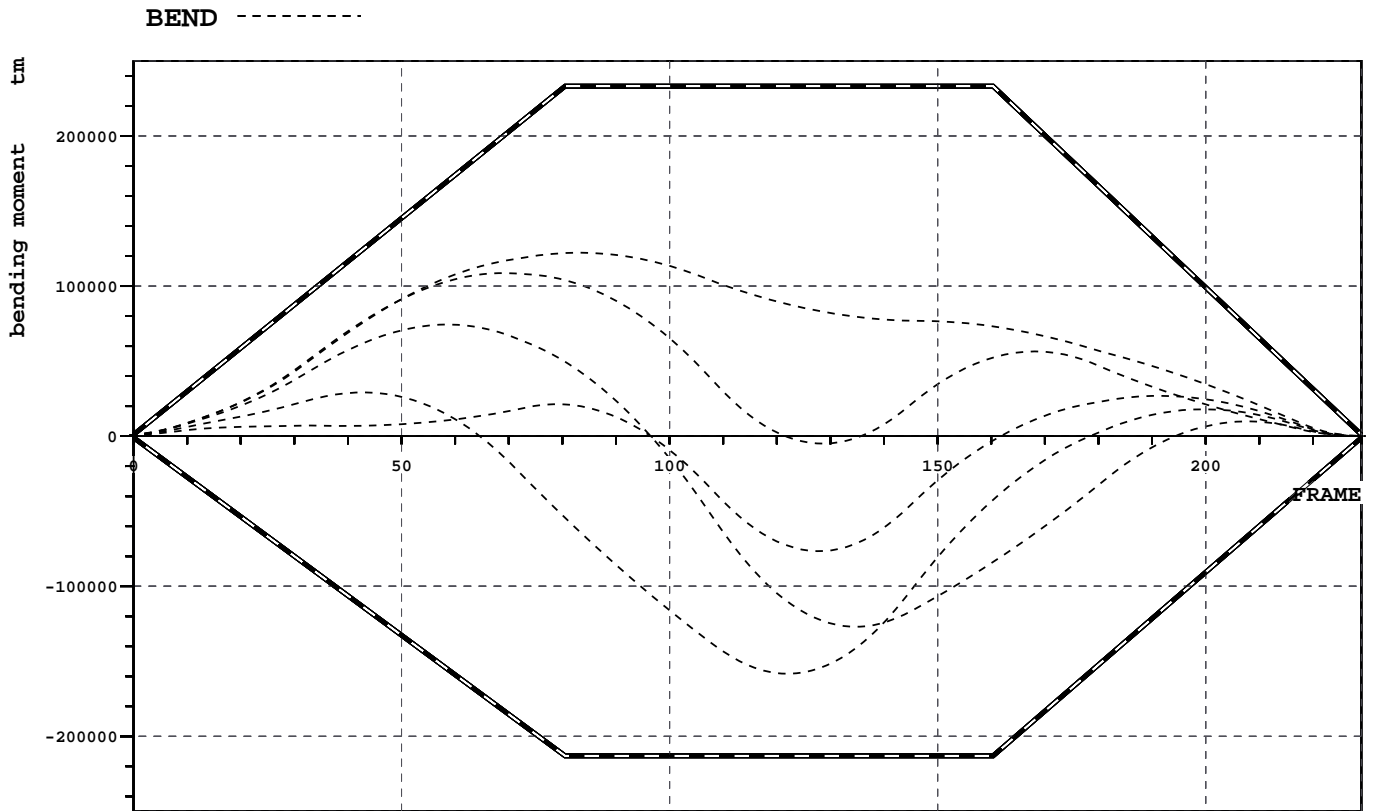
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4416.1 t	(50.4%)	85.6 m	107
SHEAR FORCE (MAX,CORR)	3237.4 t	(38.5%)	116.8 m	146
SAGGING MOMENT	-94929.9 tm	(62.1%)	103.1 m	129
HOGGING MOMENT	70711.1 tm	(56.1%)	46.7 m	58

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	44087	73770	-8786	2466	2466	8830
72.50	-137807	60364	156169	-8294	-1678	-452	8395
72.50	-137811	60361	156173	-8294	-1677	-3103	8395
108.50	-152905	-46632	173293	-8758	-5680	-4255	8758
108.50	-152905	-46636	173293	-8758	-5680	-3763	8758
144.50	-152905	-67213	173293	-8517	4307	2390	8468
144.50	-152905	-67206	173293	-8517	4307	3059	8467
180.50	-108361	12143	122770	-8106	1189	2437	7971
180.50	-108357	12145	122765	-8106	1189	123	7971
219.00	-23246	5260	26231	-9904	-1495	-1495	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3472.3 t (37.3%)	POSITION:	85.8 m	107
SHEAR FORCE (MAX,CORR)	3445.2 t (36.8%)		26.4 m	33
SAGGING MOMENT	-4959.6 tm (2.3%)		103.1 m	129
HOGGING MOMENT	108658.4 tm (54.2%)		55.3 m	69

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5189.0 t (55.7%)	POSITION:	85.8 m	107
SHEAR FORCE (MAX,CORR)	4913.0 t (56.1%)		144.4 m	181
SAGGING MOMENT	-127025 tm (59.6%)		107.8 m	135
HOGGING MOMENT	74383.8 tm (43.7%)		47.0 m	59

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2331.0 t (26.3%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	3372.3 t (36.0%)		26.4 m	33
SAGGING MOMENT	-0.9 tm (0.1%)		185.6 m	232
HOGGING MOMENT	122231.7 tm (52.4%)		66.4 m	83

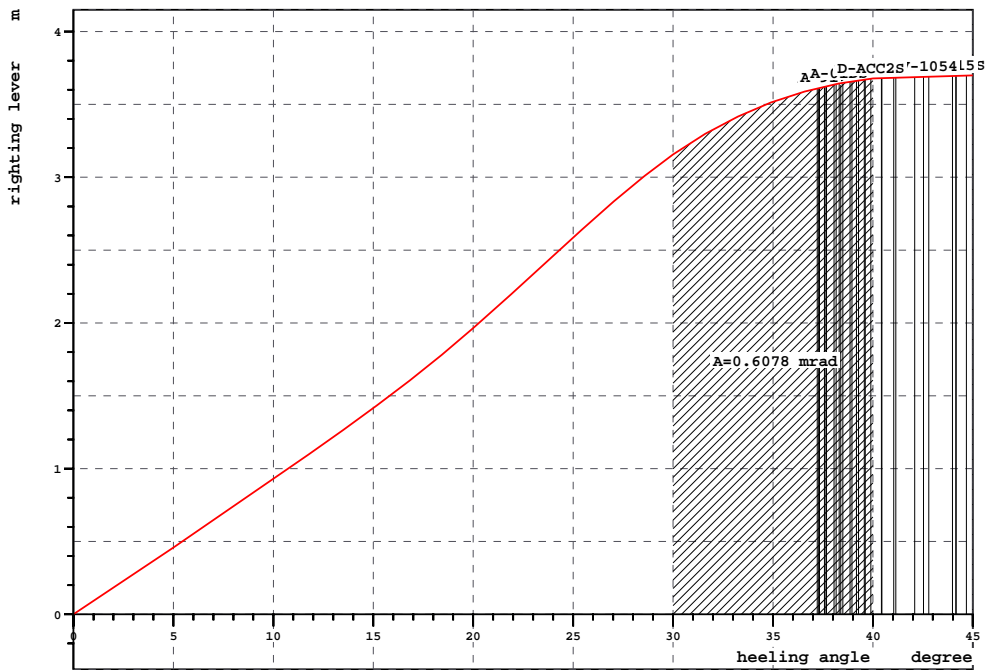
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-6050.1 t (67.3%)	POSITION:	58.0 m	73
SHEAR FORCE (MAX,CORR)	4605.3 t (50.8%)		116.8 m	146
SAGGING MOMENT	-158290 tm (74.3%)		97.6 m	122
HOGGING MOMENT	29147.0 tm (23.4%)		34.3 m	43

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3402.6 t (36.5%)	POSITION:	86.0 m	108
SHEAR FORCE (MAX,CORR)	3098.4 t (34.2%)		116.8 m	146
SAGGING MOMENT	-76615.8 tm (36.0%)		102.3 m	128
HOGGING MOMENT	26895.9 tm (21.0%)		153.2 m	191

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.779	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.387	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.608	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	3.698	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	5.227	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.732		OK
GMD	GM > 1.20 m ref. damage stability	1.200	5.227	m	OK

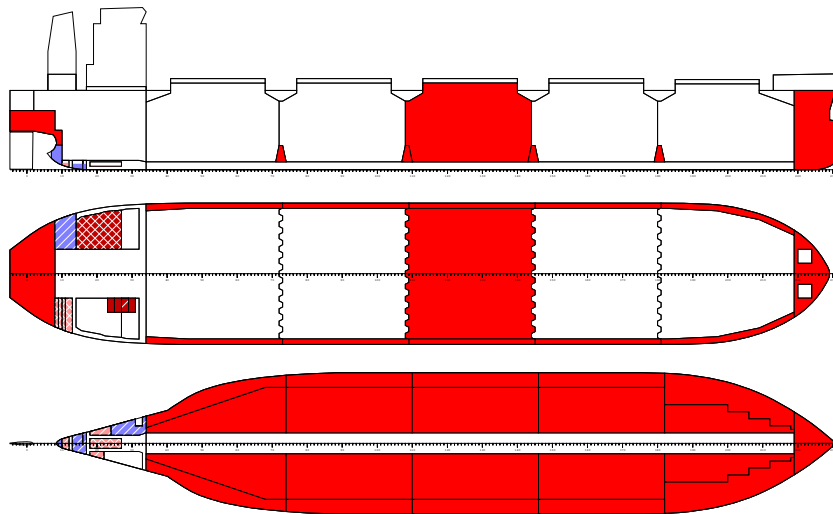
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*04, HEAVY BALLAST - ARR 10 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	43703 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	8.33 m		
Draught aft (below keel)	9.38 m		
Mean draught (below keel)	8.86 m	Trim	1.04 m
KM above the moulded base	14.59 m		
KG0 (solid)	9.15 m	GM0 (solid)	5.44 m
Free surface correction	0.04 m		-0.04 m
KG (fluid)	9.19 m	GM (fluid)	5.40 m
Actual heel	-0.07 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Solid Cargo (RHO=0.775)							
CH1	NO.1 CARGO HOLD	0.0	0	158.60	0.00	10.12	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	13682.4	100	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	0.0	0	43.26	0.00	10.52	0

TOTAL		13682.4		101.22	0.00	10.21	0

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DIAMOND 53
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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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DIAMOND 53
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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm
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 CONTENTS=Stores and Provision (RHO=1)

S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0
SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTIS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1
SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTIS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	1921.1	100	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	251.6	100	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	251.6	100	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	1093.5	100	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	1093.5	100	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	622.9	100	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	622.9	100	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	1033.7	100	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	1033.7	100	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	622.9	100	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	622.9	100	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	1035.0	100	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	1035.0	100	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	622.9	100	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	622.9	100	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	1023.1	100	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	1023.1	100	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	446.0	100	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	446.0	100	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	865.3	100	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	865.3	100	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	386.0	100	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	386.0	100	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	658.2	100	2.33	0.00	11.53	0
SUBTOTAL		18585.2		104.35	0.00	6.71	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	32659.3	102.00	-0.02	8.24
Total weight	43703.4	97.47	-0.01	9.15

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CONDITION B*04
INTACT STABILITY

DATE 2006-09-27
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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 1.06

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 11.14 M

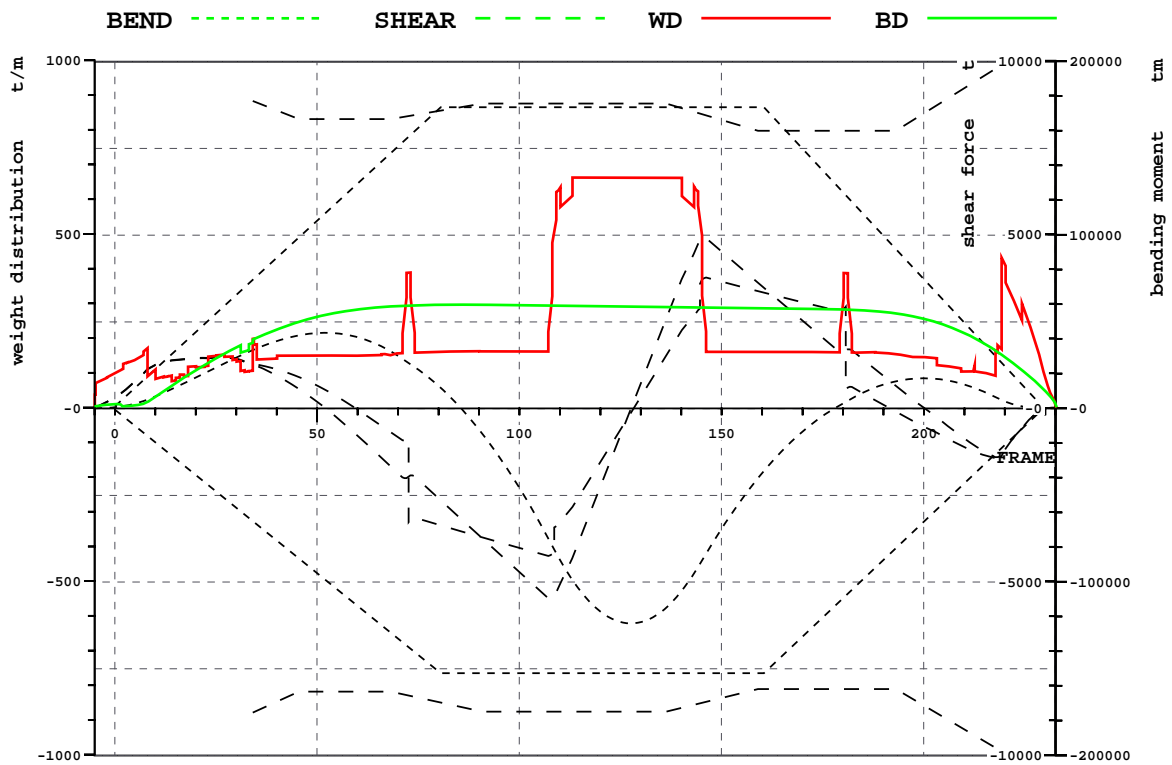
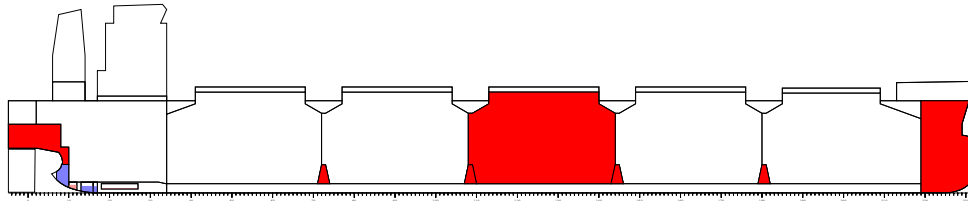
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 11.19 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 11.02 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 10.86 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 10.69 M

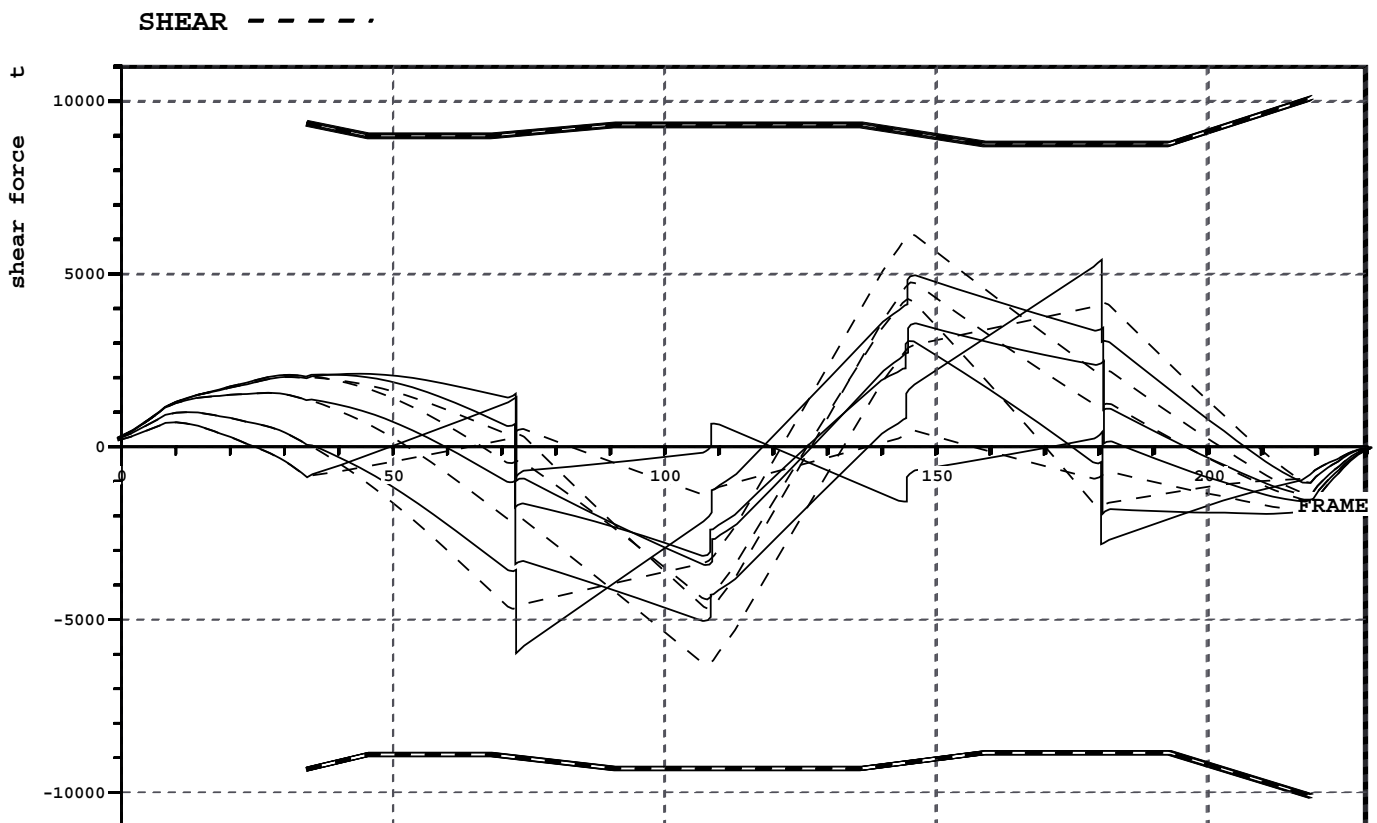
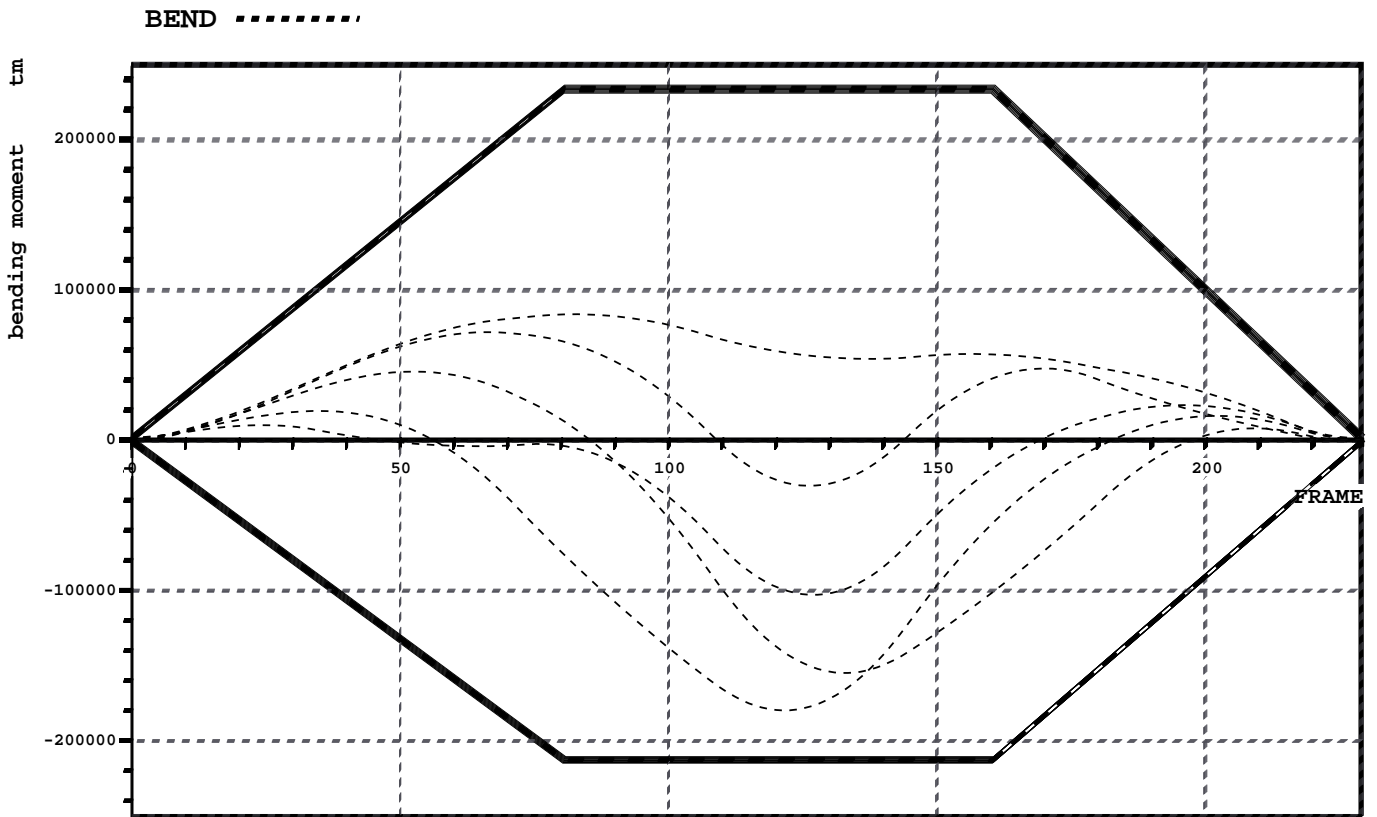
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4272.7 t	(48.8%)	85.6 m	107
SHEAR FORCE (MAX,CORR)	3744.4 t	(44.5%)	116.8 m	146
SAGGING MOMENT	-123982 tm	(81.1%)	102.0 m	128
HOGGING MOMENT	43496.5 tm	(39.0%)	41.4 m	52

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	33476	73770	-8786	1222	1222	8830
72.50	-137807	26250	156169	-8294	-1983	-886	8395
72.50	-137811	26247	156173	-8294	-1983	-3301	8395
108.50	-152905	-81087	173293	-8758	-5421	-4103	8758
108.50	-152905	-81091	173293	-8758	-5421	-3456	8758
144.50	-152905	-90221	173293	-8517	4820	2855	8468
144.50	-152905	-90214	173293	-8517	4820	3561	8467
180.50	-108361	3410	122770	-8106	1644	2903	7971
180.50	-108357	3412	122765	-8106	1644	521	7971
219.00	-23246	5004	26231	-9904	-1402	-1402	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3143.6 t (33.8%)	85.8 m	107
SHEAR FORCE (MAX,CORR)	3077.2 t (33.9%)	116.2 m	145
SAGGING MOMENT	-29332.9 tm (13.8%)	101.2 m	126
HOGGING MOMENT	73041.2 tm (38.1%)	52.9 m	66

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-5037.6 t (54.1%)	85.8 m	107
SHEAR FORCE (MAX,CORR)	5417.7 t (61.9%)	144.4 m	181
SAGGING MOMENT	-154509 tm (72.5%)	106.4 m	133
HOGGING MOMENT	46174.3 tm (30.2%)	42.1 m	53

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-1948.6 t (22.0%)	144.4 m	181
SHEAR FORCE (MAX,CORR)	2108.2 t (23.3%)	35.0 m	44
SAGGING MOMENT	-0.4 tm (0.0%)	-3.9 m	-5
HOGGING MOMENT	83724.7 tm (35.9%)	66.1 m	83

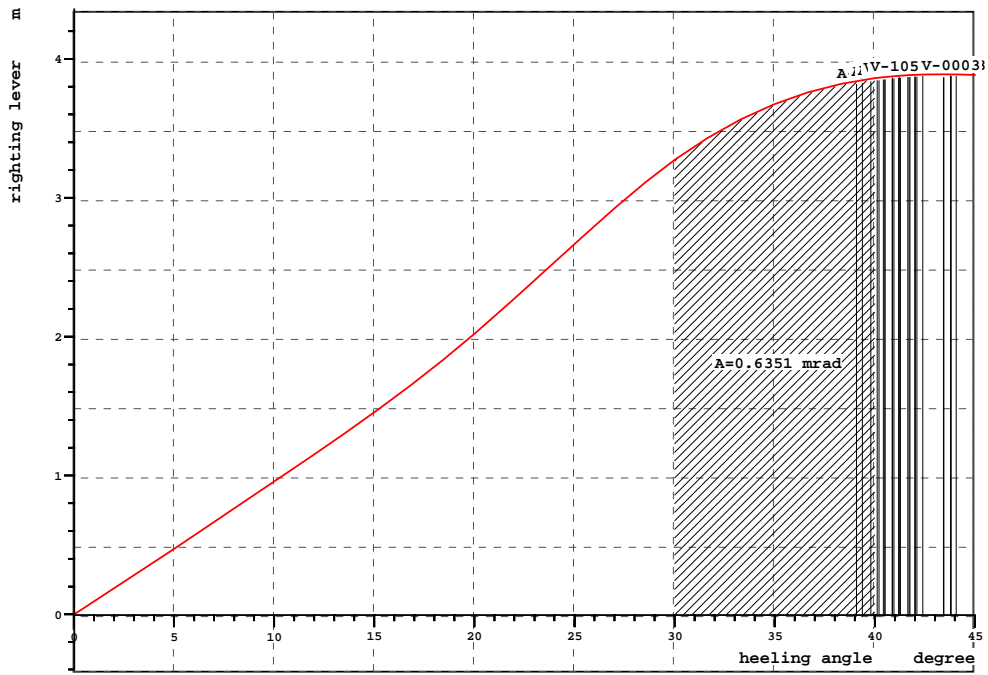
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-5986.2 t (66.6%)	58.0 m	73
SHEAR FORCE (MAX,CORR)	4939.6 t (54.5%)	116.8 m	146
SAGGING MOMENT	-180307 tm (84.7%)	97.1 m	121
HOGGING MOMENT	18828.9 tm (18.5%)	27.9 m	35

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

		X	FRAME
SHEAR FORCE (MIN,CORR)	-3441.0 t (37.0%)	85.8 m	107
SHEAR FORCE (MAX,CORR)	3542.2 t (39.1%)	116.8 m	146
SAGGING MOMENT	-103952 tm (48.8%)	101.6 m	127
HOGGING MOMENT	22131.6 tm (19.4%)	156.5 m	196

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTV	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.804	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.440	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.635	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	3.889	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	43.378	deg	OK
GM0.15	GM > 0.15 m	0.150	5.395	m	OK
IMOWEATHER	IMO weather criterion	1.000	4.653		OK
GMD	GM > 1.20 m ref. damage stability	1.200	5.395	m	OK

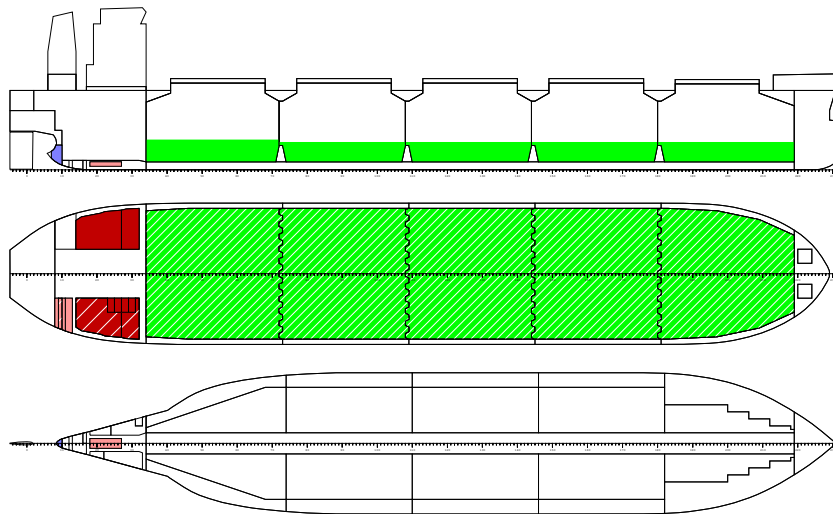
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*05, HOMO 3.0 T/M3 - DEP 100 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	64756 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	11.79 m		
Draught aft (below keel)	13.34 m		
Mean draught (below keel)	12.56 m	Trim	1.55 m
KM above the moulded base	13.76 m		
KG0 (solid)	5.87 m	GM0 (solid)	7.89 m
Free surface correction	0.03 m		-0.03 m
KG (fluid)	5.91 m	GM (fluid)	7.85 m
Actual heel	-0.31 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Heavy Cargo (RHO=3)							
CH1	NO.1 CARGO HOLD	9700.0	26	158.65	0.00	4.19	0
CH2	NO.2 CARGO HOLD	10410.0	26	130.01	0.00	4.16	0
CH3	NO.3 CARGO HOLD	10410.0	26	101.21	0.00	4.16	0
CH4	NO.4 CARGO HOLD	10410.0	26	72.41	0.00	4.16	0
CH5	NO.5 CARGO HOLD	10340.0	26	44.16	0.00	4.56	0

TOTAL		51270.0		100.57	0.00	4.25	0

Carl Bro a/s - DMC
 NAPA/D/LD/060614
 P40357500/CXS4210
 P40357500

DIAMOND 53
 CONDITION B*05
 INTACT STABILITY

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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DIAMOND 53
 CONDITION B*05
 INTACT STABILITY

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53711.4	96.79	-0.06	4.64
Total weight	64755.5	94.62	-0.05	5.87

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P40357500

DIAMOND 53
CONDITION B*05
INTACT STABILITY

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.84

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.62 M

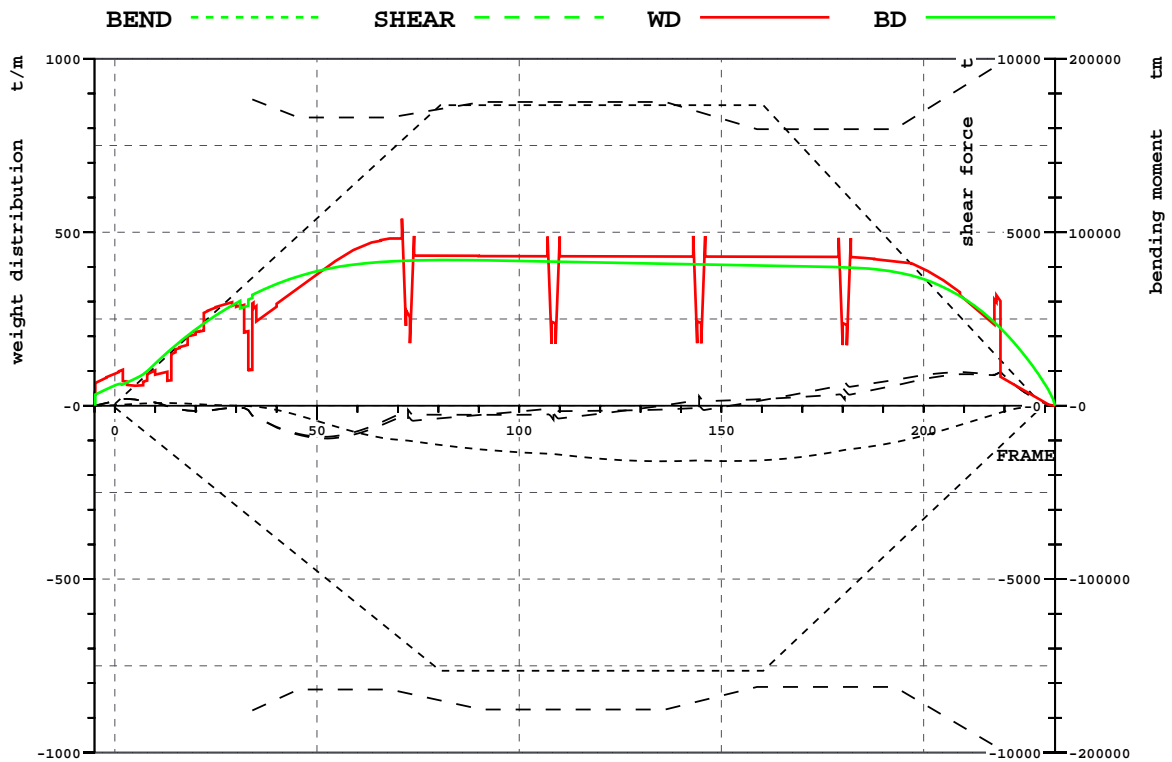
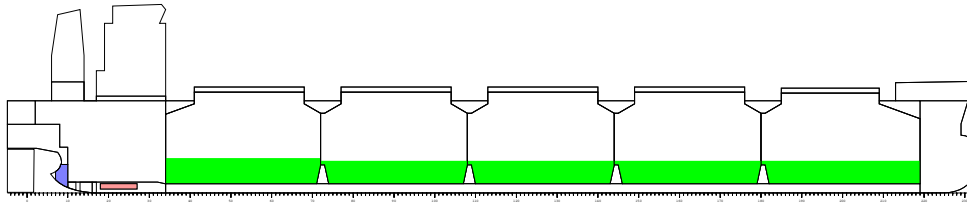
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.58 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.34 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.10 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 6.85 M

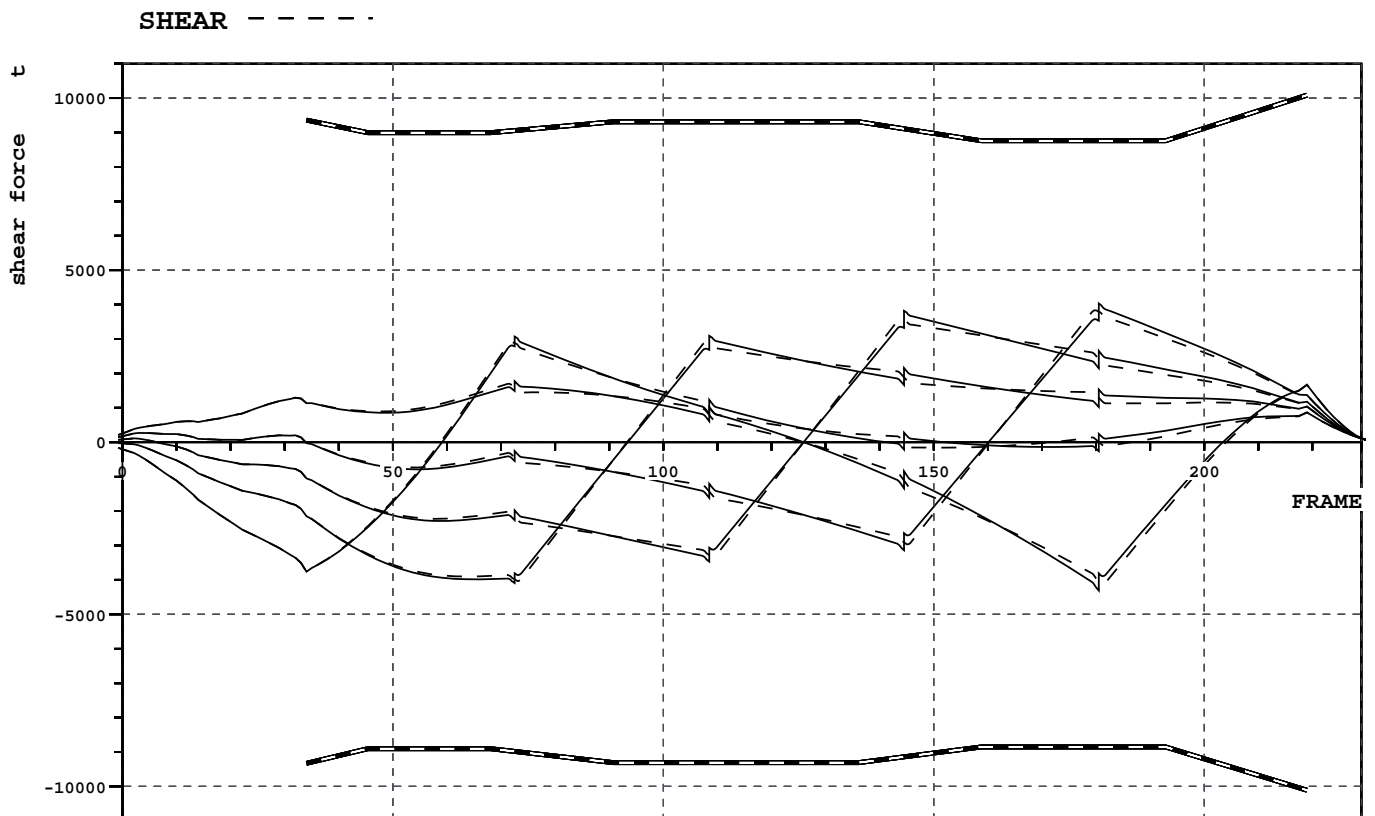
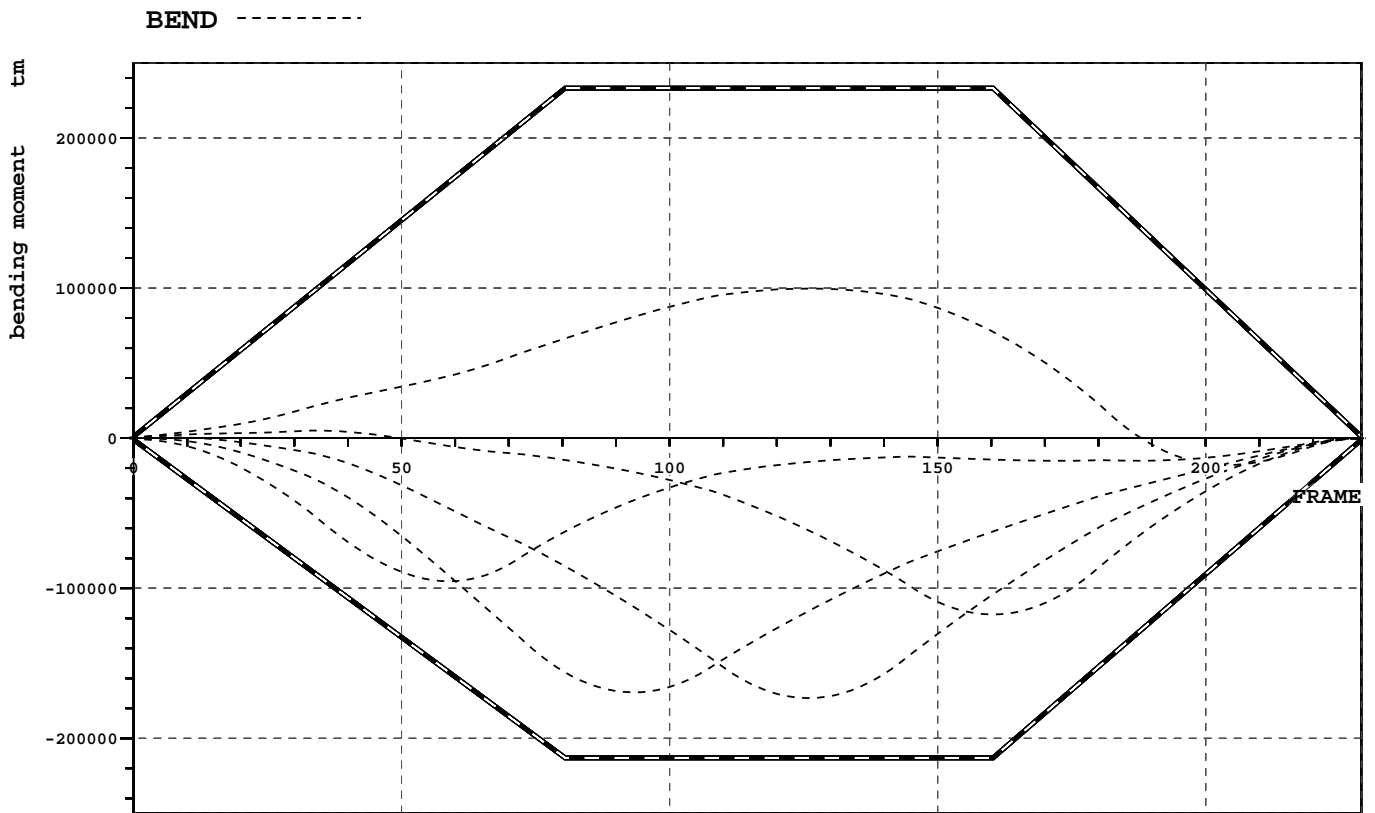
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-946.1 t	(11.6%)	41.7 m	52
SHEAR FORCE (MAX,CORR)	969.4 t	(10.6%)	167.2 m	209
SAGGING MOMENT	-32079.3 tm	(21.0%)	108.3 m	135
HOGGING MOMENT	1587.7 tm	(5.6%)	10.1 m	13

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-335	73770	-8786	-289	-289	8830
72.50	-137807	-20198	156169	-8294	-299	-402	8395
72.50	-137811	-20199	156173	-8294	-300	-117	8395
108.50	-152905	-27825	173293	-8758	-226	-408	8758
108.50	-152905	-27825	173293	-8758	-226	0	8758
144.50	-152905	-31569	173293	-8517	8	-218	8468
144.50	-152905	-31569	173293	-8517	8	278	8467
180.50	-108361	-25514	122770	-8106	448	178	7971
180.50	-108357	-25513	122765	-8106	447	682	7971
219.00	-23246	-4011	26231	-9904	968	968	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4311.2 t (48.7%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	1772.0 t (19.6%)		58.0 m	73
SAGGING MOMENT	-17914.7 tm (22.8%)		163.1 m	204
HOGGING MOMENT	99719.6 tm (42.8%)		100.8 m	126

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3138.2 t (34.3%)	POSITION:	115.6 m	145
SHEAR FORCE (MAX,CORR)	4033.3 t (46.0%)		144.4 m	181
SAGGING MOMENT	-117458 tm (55.1%)		128.1 m	160
HOGGING MOMENT	5058.8 tm (5.1%)		27.2 m	34

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3470.6 t (37.3%)	POSITION:	86.8 m	108
SHEAR FORCE (MAX,CORR)	3816.8 t (41.9%)		115.6 m	145
SAGGING MOMENT	-173190 tm (81.3%)		100.8 m	126
HOGGING MOMENT	552.3 tm (2.8%)		5.2 m	6

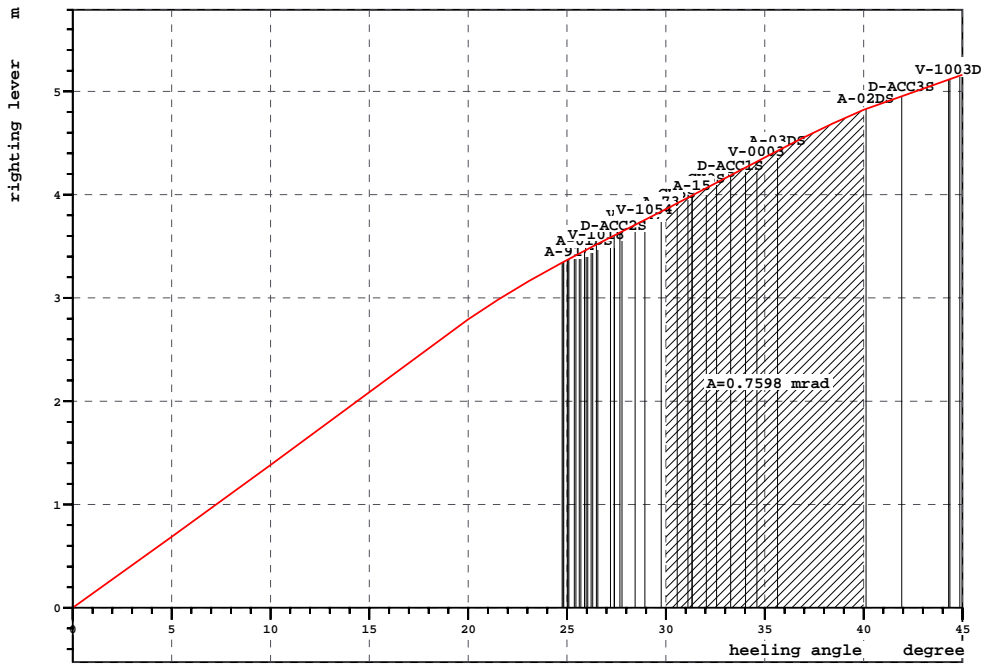
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4092.1 t (45.5%)	POSITION:	58.0 m	73
SHEAR FORCE (MAX,CORR)	3093.2 t (33.2%)		86.8 m	109
SAGGING MOMENT	-169381 tm (79.5%)		74.6 m	93
HOGGING MOMENT	3.7 tm (0.4%)		185.3 m	232

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3761.4 t (40.3%)	POSITION:	27.2 m	34
SHEAR FORCE (MAX,CORR)	3070.4 t (33.9%)		58.0 m	73
SAGGING MOMENT	-95367.0 tm (61.0%)		47.2 m	59
HOGGING MOMENT	7.8 tm (0.8%)		185.3 m	232

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.070	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.830	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.760	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	5.160	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	7.854	m	OK
IMOWEATHER	IMO weather criterion	1.000	3.870		OK
GMD	GM > 1.20 m ref. damage stability	1.200	7.854	m	OK

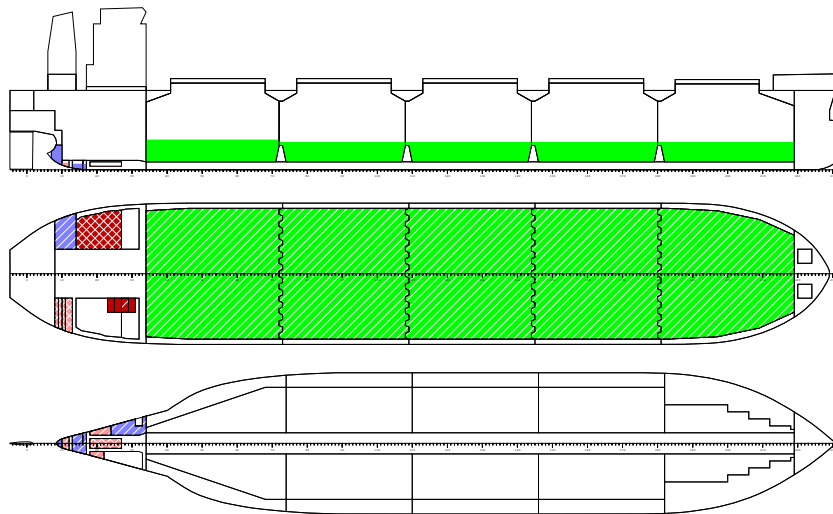
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*06, HOMO 3.0 T/M3 - ARR 10 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	62706 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.37 m		
Draught aft (below keel)	12.09 m		
Mean draught (below keel)	12.23 m	Trim	-0.28 m
KM above the moulded base	13.67 m		
KG0 (solid)	5.63 m	GM0 (solid)	8.04 m
Free surface correction	0.03 m		-0.03 m
KG (fluid)	5.66 m	GM (fluid)	8.02 m
Actual heel	-0.03 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Heavy Cargo (RHO=3)							
CH1	NO.1 CARGO HOLD	9700.0	26	158.65	0.00	4.19	0
CH2	NO.2 CARGO HOLD	10410.0	26	130.01	0.00	4.16	0
CH3	NO.3 CARGO HOLD	10410.0	26	101.21	0.00	4.16	0
CH4	NO.4 CARGO HOLD	10410.0	26	72.41	0.00	4.16	0
CH5	NO.5 CARGO HOLD	10340.0	26	44.16	0.00	4.56	0

TOTAL		51270.0		100.57	0.00	4.25	0

Carl Bro a/s - DMC
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DIAMOND 53
 CONDITION B*06
 INTACT STABILITY

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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DIAMOND 53
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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	51661.6	99.94	-0.01	4.30
Total weight	62705.8	97.14	-0.01	5.63

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.70

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.29 M

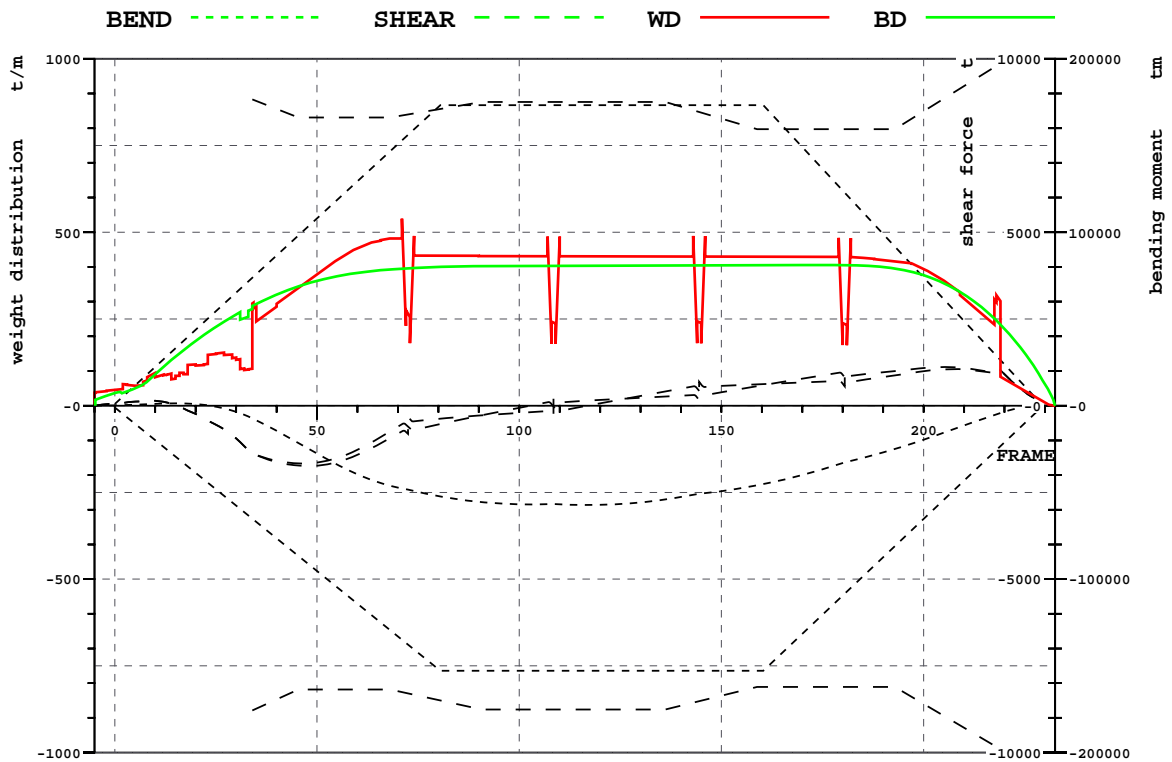
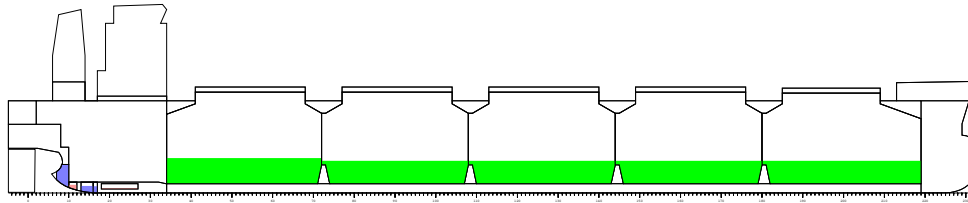
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.53 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.57 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.62 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.66 M

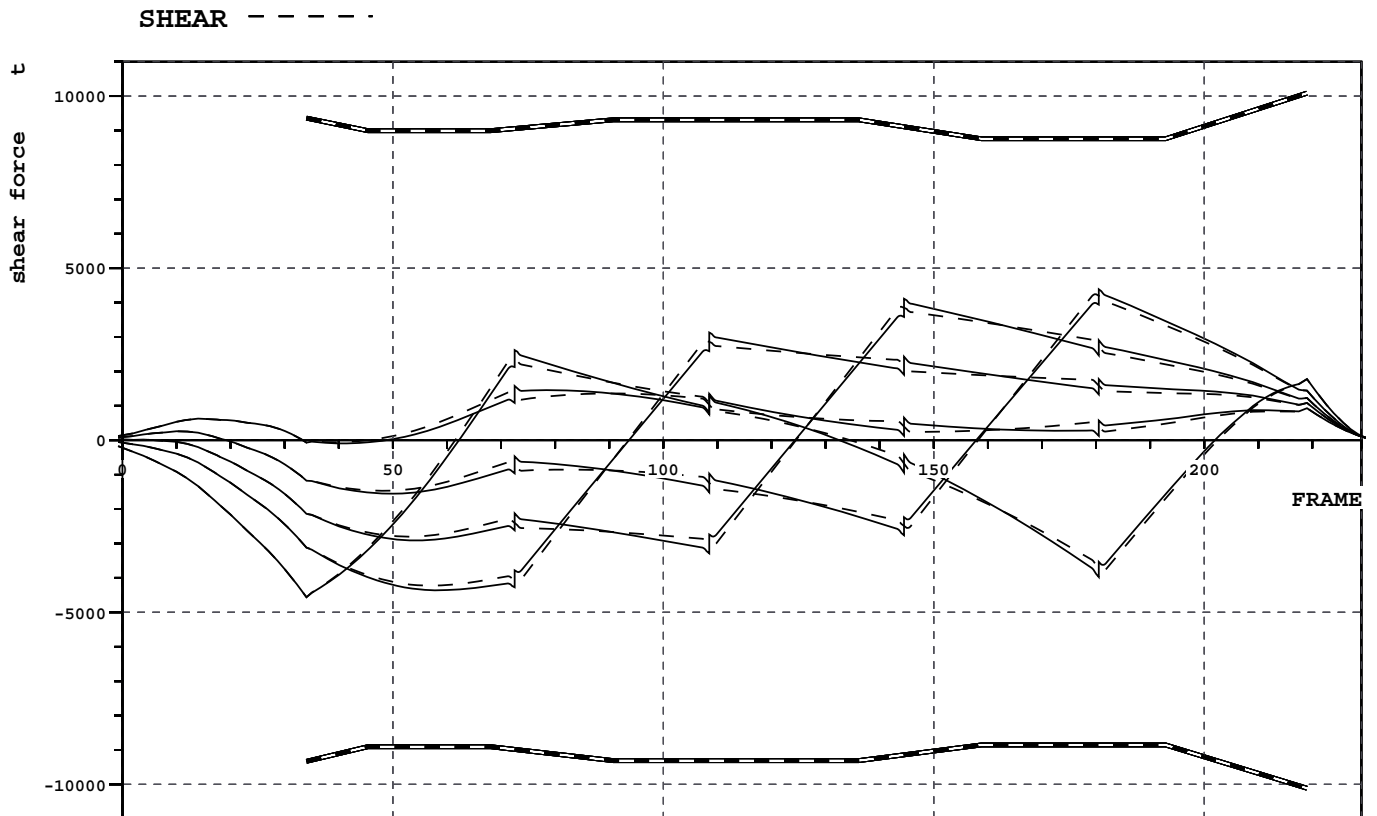
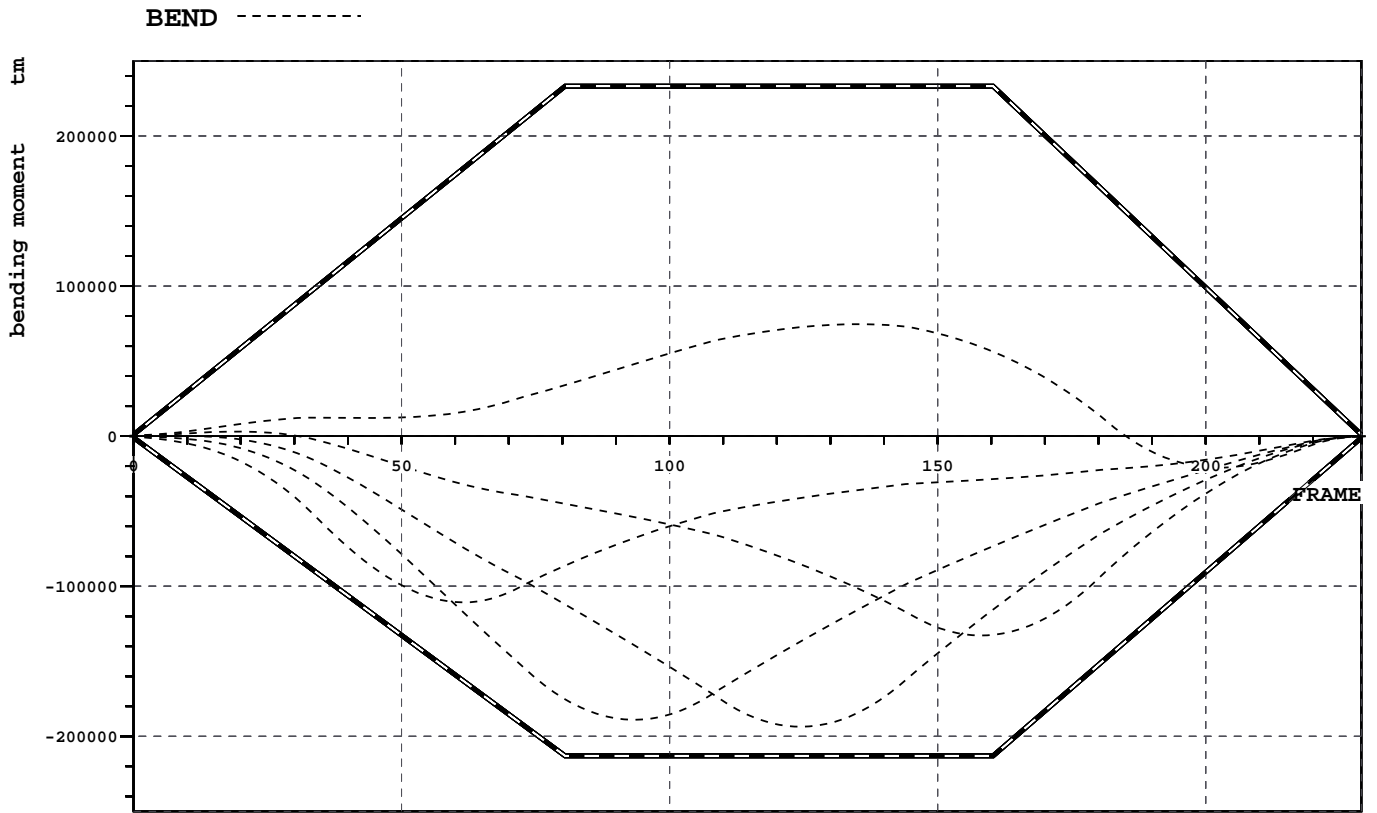
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-1739.2 t	(21.3%)	38.4 m	48
SHEAR FORCE (MAX,CORR)	1113.1 t	(12.5%)	164.6 m	206
SAGGING MOMENT	-57261.1 tm	(37.4%)	93.4 m	117
HOGGING MOMENT	1383.8 tm	(4.0%)	12.4 m	15

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-7281	73770	-8786	-1420	-1420	8830
72.50	-137807	-48338	156169	-8294	-598	-813	8395
72.50	-137811	-48339	156173	-8294	-598	-321	8395
108.50	-152905	-56711	173293	-8758	-27	-304	8758
108.50	-152905	-56711	173293	-8758	-27	241	8758
144.50	-152905	-50834	173293	-8517	430	161	8468
144.50	-152905	-50834	173293	-8517	429	690	8467
180.50	-108361	-32681	122770	-8106	818	558	7971
180.50	-108357	-32680	122765	-8106	818	1003	7971
219.00	-23246	-4198	26231	-9904	1023	1023	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3978.0 t (44.9%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	1778.3 t (17.6%)		175.2 m	219
SAGGING MOMENT	-21026.9 tm (25.4%)		162.0 m	203
HOGGING MOMENT	74646.5 tm (32.0%)		107.9 m	135

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2764.0 t (30.2%)	POSITION:	115.6 m	145
SHEAR FORCE (MAX,CORR)	4387.4 t (50.1%)		144.4 m	181
SAGGING MOMENT	-132785 tm (62.3%)		126.4 m	158
HOGGING MOMENT	3108.7 tm (5.5%)		15.5 m	19

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3285.0 t (35.3%)	POSITION:	86.8 m	108
SHEAR FORCE (MAX,CORR)	4113.2 t (45.2%)		115.6 m	145
SAGGING MOMENT	-193598 tm (90.9%)		99.7 m	125
HOGGING MOMENT	161.8 tm (0.9%)		4.8 m	6

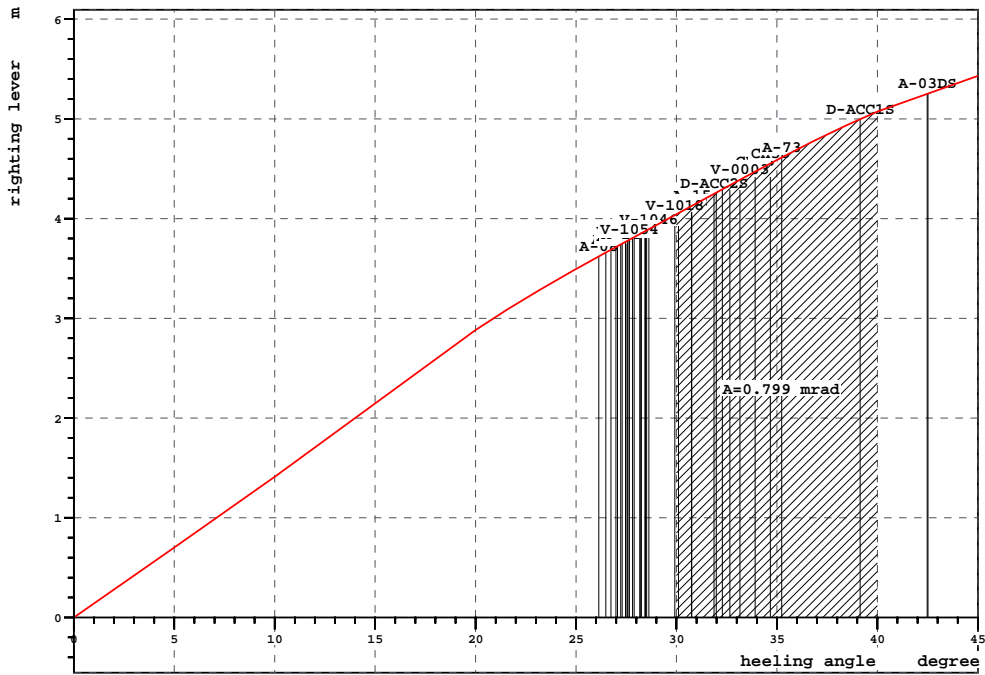
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4360.0 t (49.0%)	POSITION:	46.6 m	58
SHEAR FORCE (MAX,CORR)	3129.6 t (33.6%)		86.8 m	109
SAGGING MOMENT	-188995 tm (88.7%)		74.6 m	93
HOGGING MOMENT	0.2 tm (0.0%)		185.6 m	232

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4562.0 t (48.9%)	POSITION:	27.2 m	34
SHEAR FORCE (MAX,CORR)	2617.5 t (28.9%)		58.0 m	73
SAGGING MOMENT	-110758 tm (68.0%)		49.2 m	61
HOGGING MOMENT	5.8 tm (0.6%)		185.3 m	232

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	1.105 mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.904 mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.799 mrad	OK
GZ0.2	Max GZ > 0.2	0.200	5.431 m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000 deg	OK
GM0.15	GM > 0.15 m	0.150	8.015 m	OK
IMOWEATHER	IMO weather criterion	1.000	4.611	OK
GMD	GM > 1.20 m ref. damage stability	1.200	8.015 m	OK

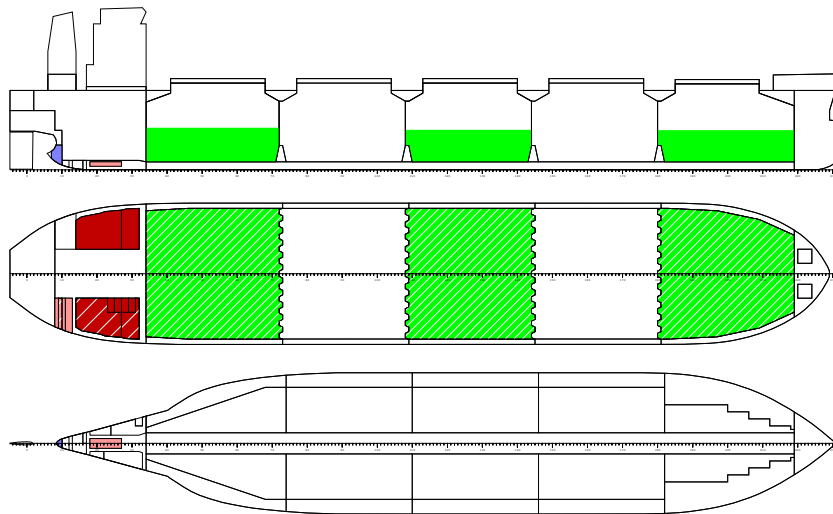
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*07, HCE 3.0 T/M3 - DEP 100 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	64791 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	11.61 m		
Draught aft (below keel)	13.52 m		
Mean draught (below keel)	12.56 m	Trim	1.91 m
KM above the moulded base	13.78 m		
KG0 (solid)	7.07 m	GM0 (solid)	6.71 m
Free surface correction	0.03 m		-0.03 m
KG (fluid)	7.10 m	GM (fluid)	6.67 m
Actual heel	-0.37 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Heavy Cargo (RHO=3)							
CH1	NO.1 CARGO HOLD	16340.0	44	158.69	0.00	5.61	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	17535.0	44	101.22	0.00	5.61	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	17430.0	44	43.75	0.00	6.06	0

TOTAL		51305.0	100.00		0.00	5.76	0

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DIAMOND 53
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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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DIAMOND 53
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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53746.4	96.24	-0.06	6.09
Total weight	64790.5	94.17	-0.05	7.07

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P40357500

DIAMOND 53
CONDITION B*07
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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.88

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.75 M

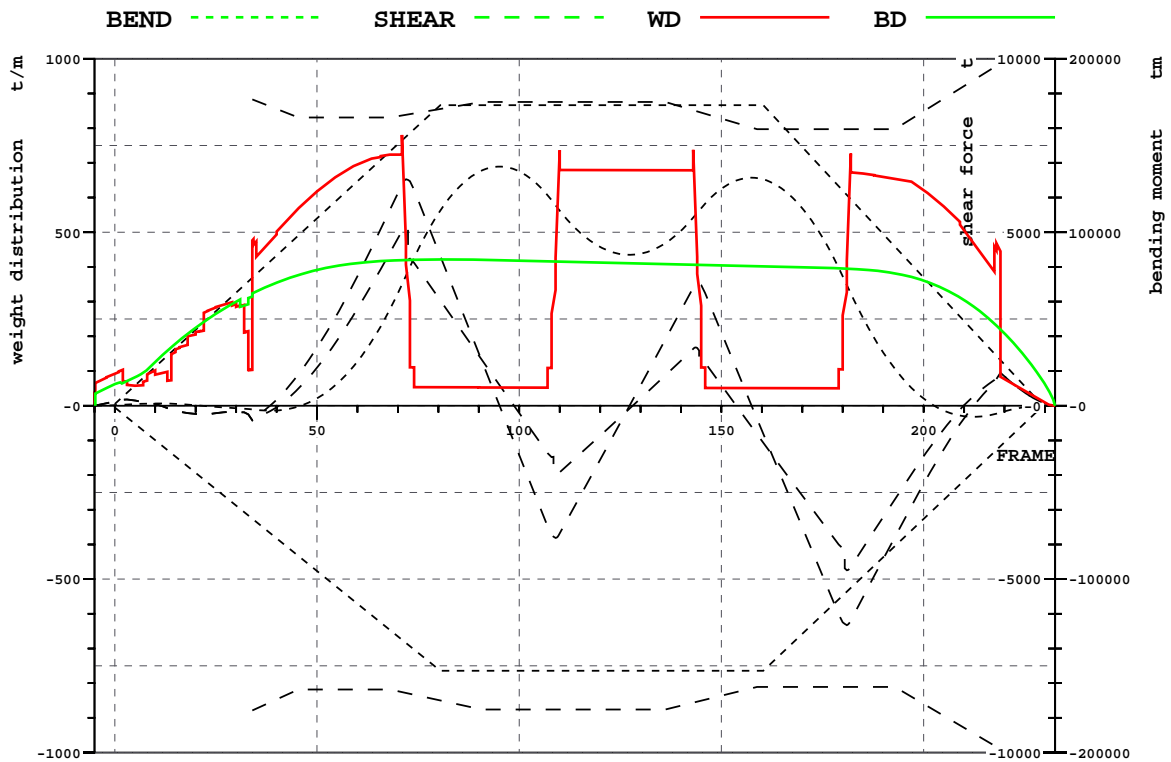
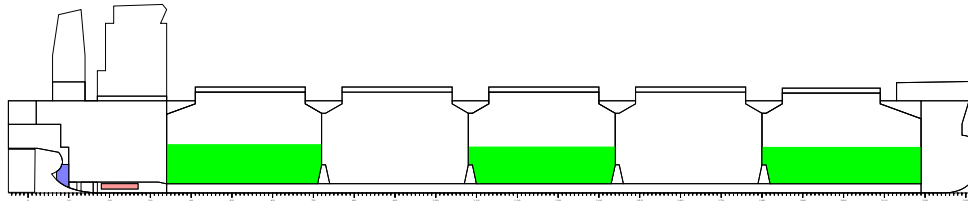
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.66 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.36 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.06 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 6.76 M

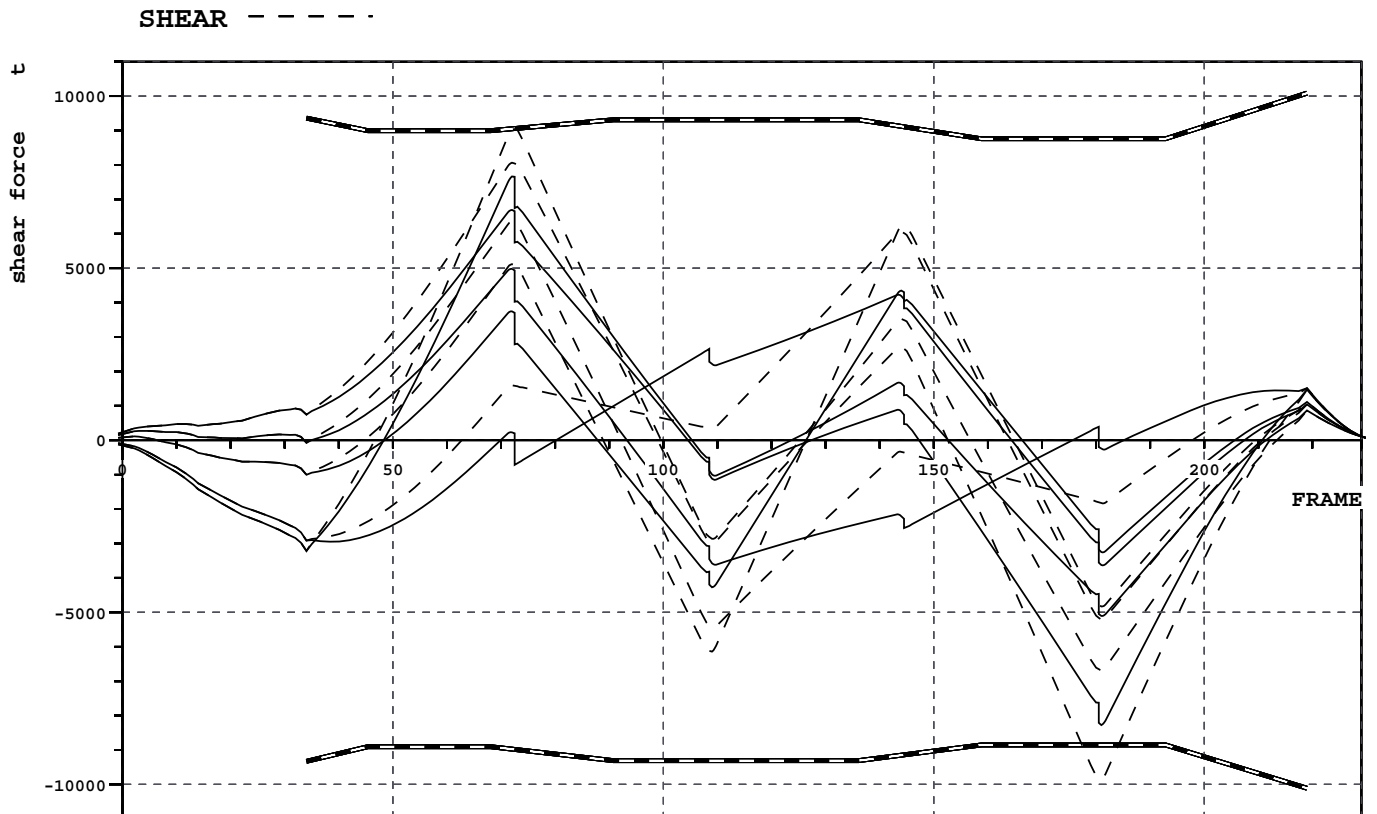
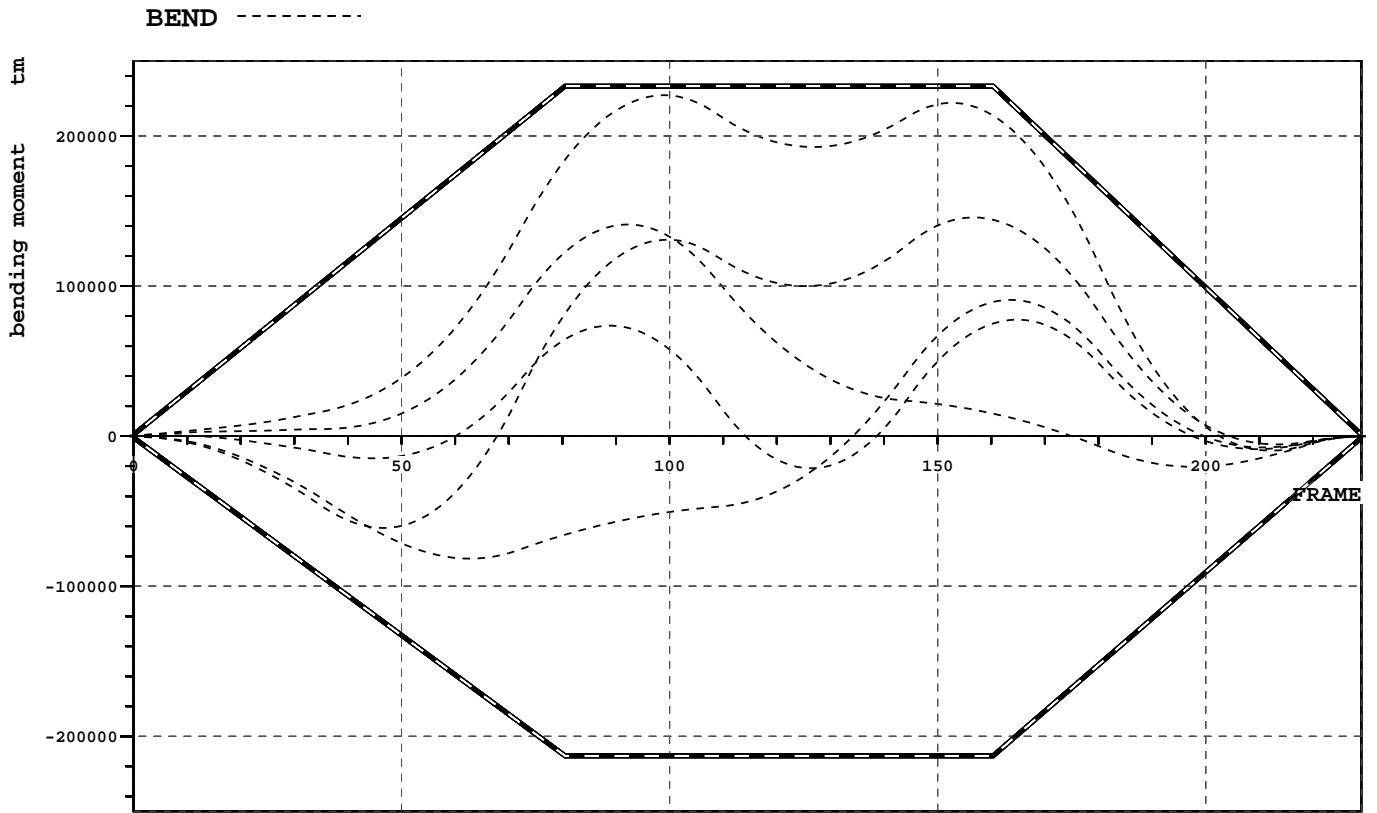
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4744.2 t	(58.5%)	144.8 m	181
SHEAR FORCE (MAX,CORR)	5155.7 t	(61.5%)	57.6 m	72
SAGGING MOMENT	-6423.6 tm	(16.9%)	169.9 m	212
HOGGING MOMENT	137885.3 tm	(79.6%)	76.1 m	95

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-2187	73770	-8786	-421	-421	8830
72.50	-137807	77543	156169	-8294	6510	5122	8395
72.50	-137811	77554	156173	-8294	6510	4209	8395
108.50	-152905	117015	173293	-8758	-3775	-1475	8758
108.50	-152905	117012	173293	-8758	-3775	-1850	8758
144.50	-152905	112454	173293	-8517	3516	1591	8468
144.50	-152905	112459	173293	-8517	3515	1324	8467
180.50	-108361	72134	122770	-8106	-6293	-4101	7971
180.50	-108357	72124	122765	-8106	-6293	-4689	7971
219.00	-23246	-3999	26231	-9904	950	950	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-8275.8 t (93.5%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	6692.3 t (74.0%)		57.6 m	72
SAGGING MOMENT	-9661.8 tm (18.0%)		169.6 m	212
HOGGING MOMENT	227136.6 tm (97.4%)		79.1 m	99

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3618.4 t (38.9%)	POSITION:	87.6 m	110
SHEAR FORCE (MAX,CORR)	4981.6 t (55.1%)		57.6 m	72
SAGGING MOMENT	-20454.3 tm (21.1%)		158.3 m	198
HOGGING MOMENT	141019.2 tm (60.5%)		73.9 m	92

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4271.5 t (45.9%)	POSITION:	87.2 m	109
SHEAR FORCE (MAX,CORR)	4347.5 t (47.7%)		115.2 m	144
SAGGING MOMENT	-21419.7 tm (10.1%)		101.2 m	126
HOGGING MOMENT	77604.9 tm (35.6%)		131.9 m	165

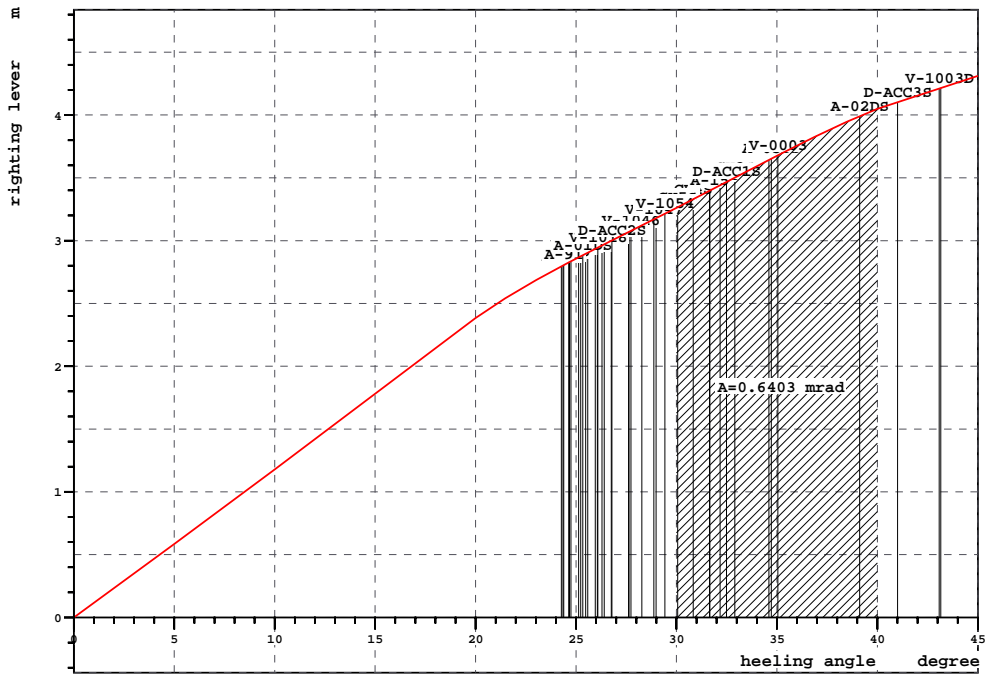
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3634.9 t (41.1%)	POSITION:	145.0 m	181
SHEAR FORCE (MAX,CORR)	4227.6 t (46.3%)		114.8 m	144
SAGGING MOMENT	-81663.1 tm (49.0%)		50.3 m	63
HOGGING MOMENT	90782.0 tm (40.7%)		130.7 m	163

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5106.7 t (57.7%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	7663.8 t (84.7%)		57.6 m	72
SAGGING MOMENT	-61154.0 tm (49.4%)		37.3 m	47
HOGGING MOMENT	145726.4 tm (62.5%)		125.5 m	157

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.910 mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.550 mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.640 mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.312 m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000 deg	OK
GM0.15	GM > 0.15 m	0.150	6.674 m	OK
IMOWEATHER	IMO weather criterion	1.000	3.408	OK
GMD	GM > 1.20 m ref. damage stability	1.200	6.674 m	OK

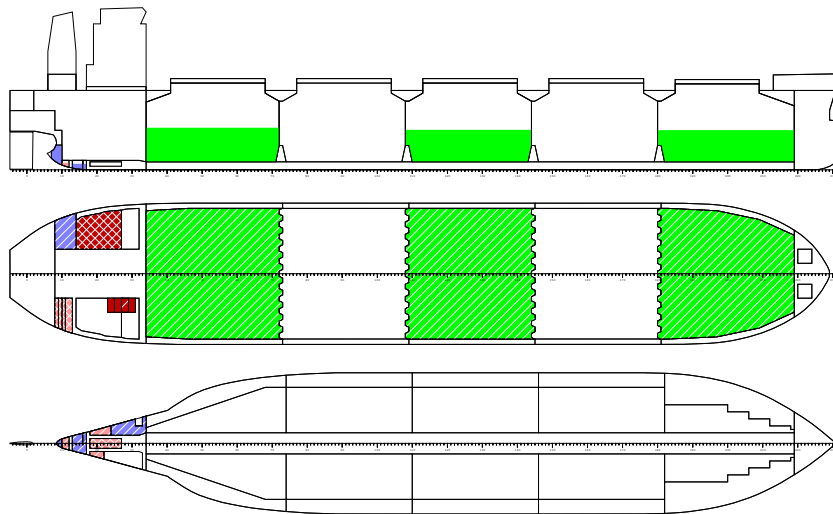
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*08, HCE 3.0 T/M3 - ARR 10 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	62741 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.19 m		
Draught aft (below keel)	12.28 m		
Mean draught (below keel)	12.23 m	Trim	0.08 m
KM above the moulded base	13.69 m		
KG0 (solid)	6.87 m	GM0 (solid)	6.82 m
Free surface correction	0.03 m		-0.03 m
KG (fluid)	6.90 m	GM (fluid)	6.79 m
Actual heel	-0.04 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Heavy Cargo (RHO=3)							
CH1	NO.1 CARGO HOLD	16340.0	44	158.69	0.00	5.61	0
CH2	NO.2 CARGO HOLD	0.0	0	130.02	0.00	10.21	0
CH3	NO.3 CARGO HOLD	17535.0	44	101.22	0.00	5.61	0
CH4	NO.4 CARGO HOLD	0.0	0	72.42	0.00	10.21	0
CH5	NO.5 CARGO HOLD	17430.0	44	43.75	0.00	6.06	0

TOTAL		51305.0	100.00		0.00	5.76	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	51696.6	99.37	-0.01	5.81
Total weight	62740.8	96.68	-0.01	6.87

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.73

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.42 M

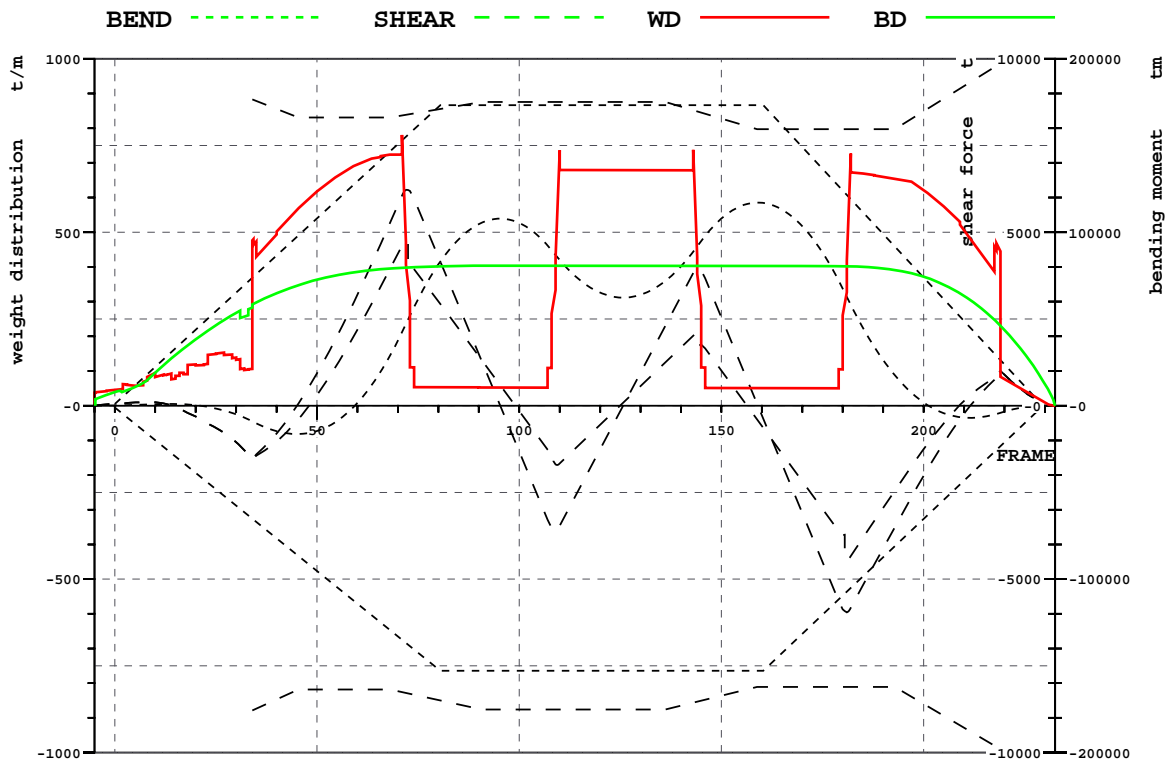
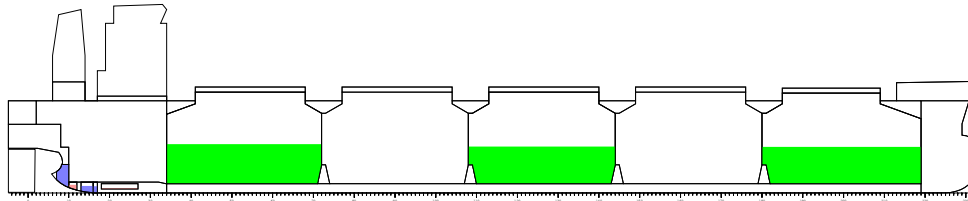
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.61 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.59 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.58 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.57 M

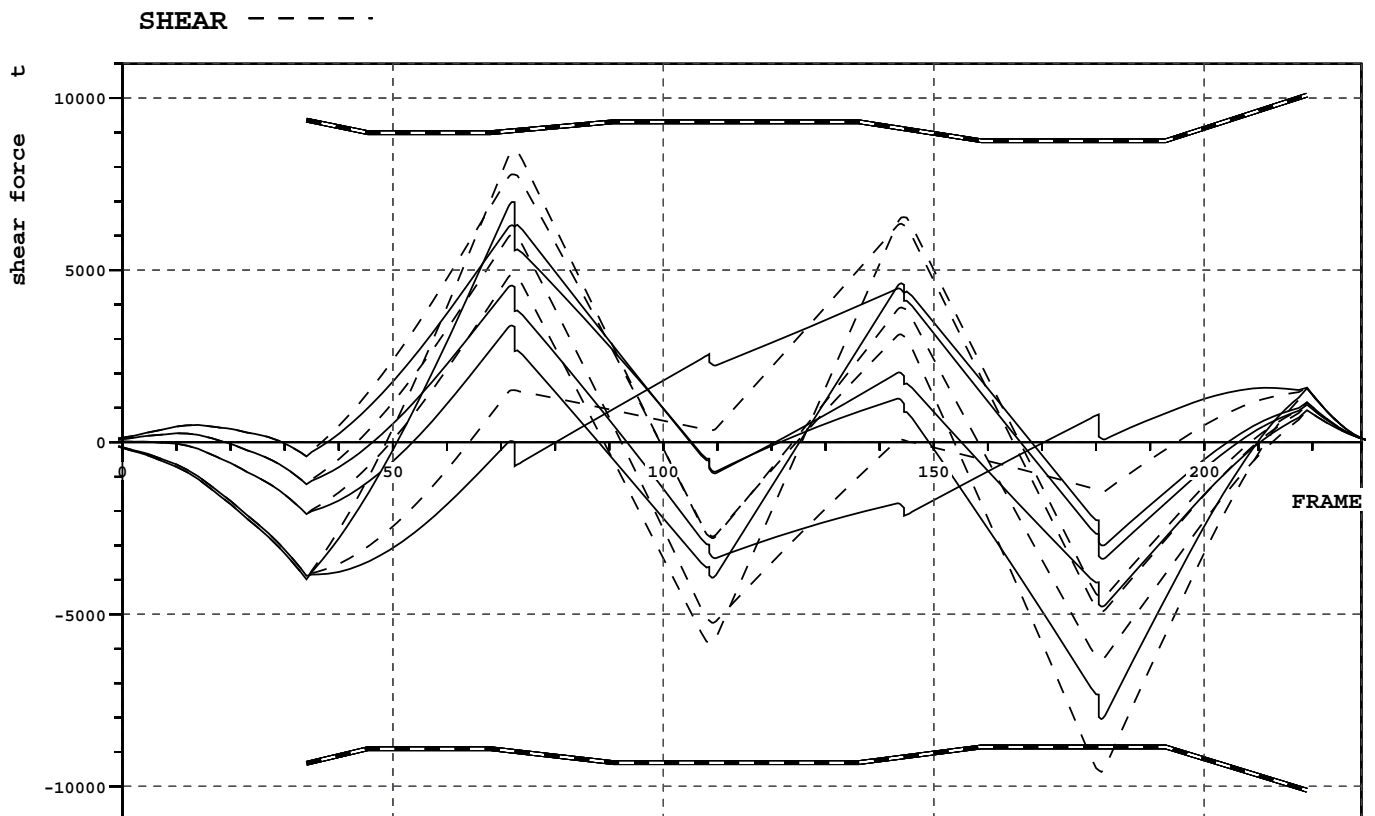
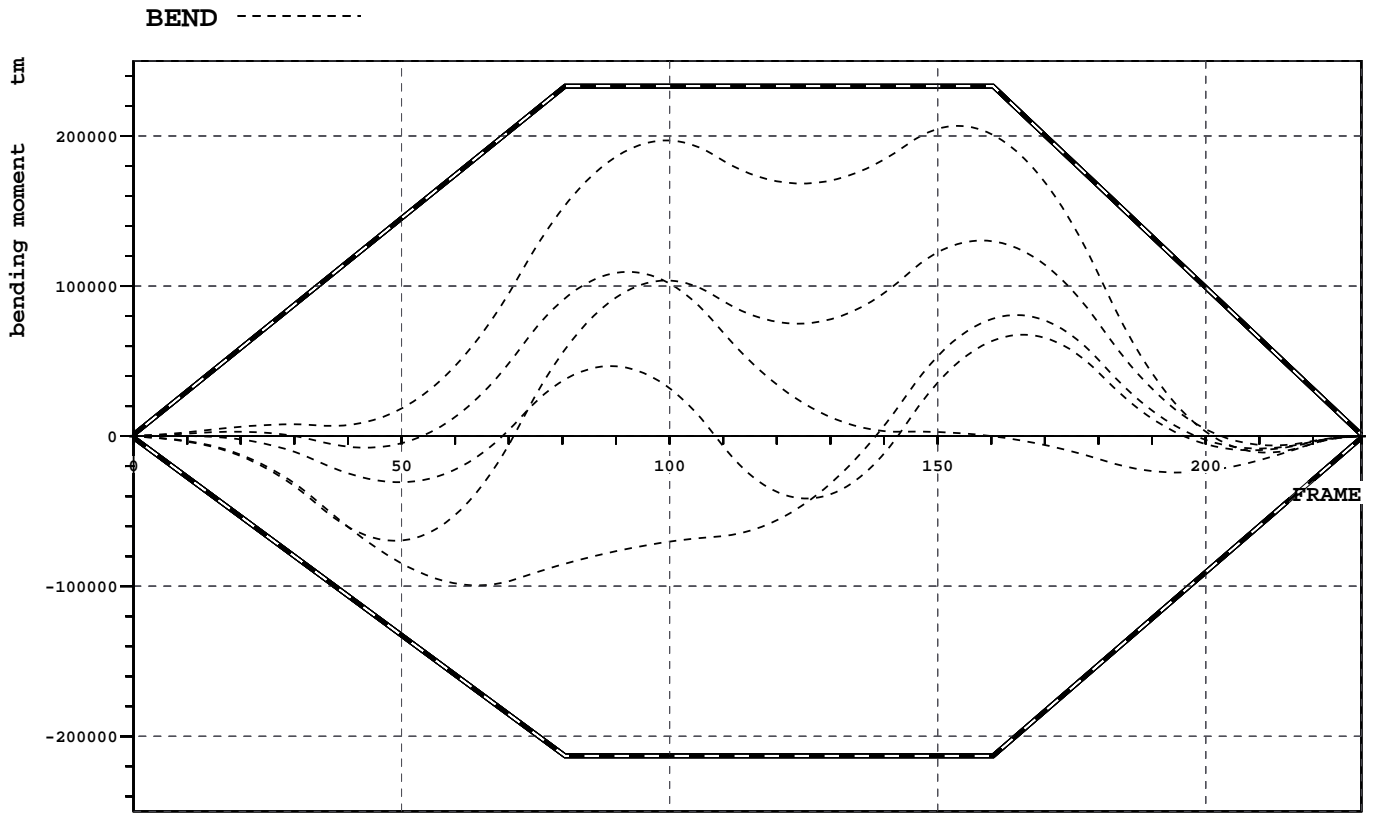
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4424.9 t	(54.6%)	144.8 m	181
SHEAR FORCE (MAX,CORR)	4743.8 t	(56.6%)	57.6 m	72
SAGGING MOMENT	-16407.2 tm	(19.0%)	36.2 m	45
HOGGING MOMENT	117087.2 tm	(67.6%)	127.4 m	159

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-9068	73770	-8786	-1545	-1545	8830
72.50	-137807	49566	156169	-8294	6218	4717	8395
72.50	-137811	49576	156173	-8294	6218	4012	8395
108.50	-152905	88333	173293	-8758	-3572	-1365	8758
108.50	-152905	88330	173293	-8758	-3572	-1605	8758
144.50	-152905	93386	173293	-8517	3940	1974	8468
144.50	-152905	93392	173293	-8517	3940	1739	8467
180.50	-108361	65113	122770	-8106	-5921	-3719	7971
180.50	-108357	65104	122765	-8106	-5921	-4368	7971
219.00	-23246	-4142	26231	-9904	1005	1005	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



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LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-8046.3 t (90.9%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	6305.8 t (69.7%)		57.6 m	72
SAGGING MOMENT	-10927.0 tm (19.8%)		169.2 m	212
HOGGING MOMENT	206744.4 tm (88.7%)		122.9 m	154

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3370.9 t (36.2%)	POSITION:	87.6 m	110
SHEAR FORCE (MAX,CORR)	4552.1 t (50.3%)		57.6 m	72
SAGGING MOMENT	-24230.2 tm (22.6%)		155.8 m	195
HOGGING MOMENT	109474.9 tm (46.9%)		73.9 m	92

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3939.9 t (42.3%)	POSITION:	87.2 m	109
SHEAR FORCE (MAX,CORR)	4619.0 t (50.7%)		115.2 m	144
SAGGING MOMENT	-41562.3 tm (19.5%)		100.5 m	126
HOGGING MOMENT	67600.0 tm (31.5%)		132.6 m	166

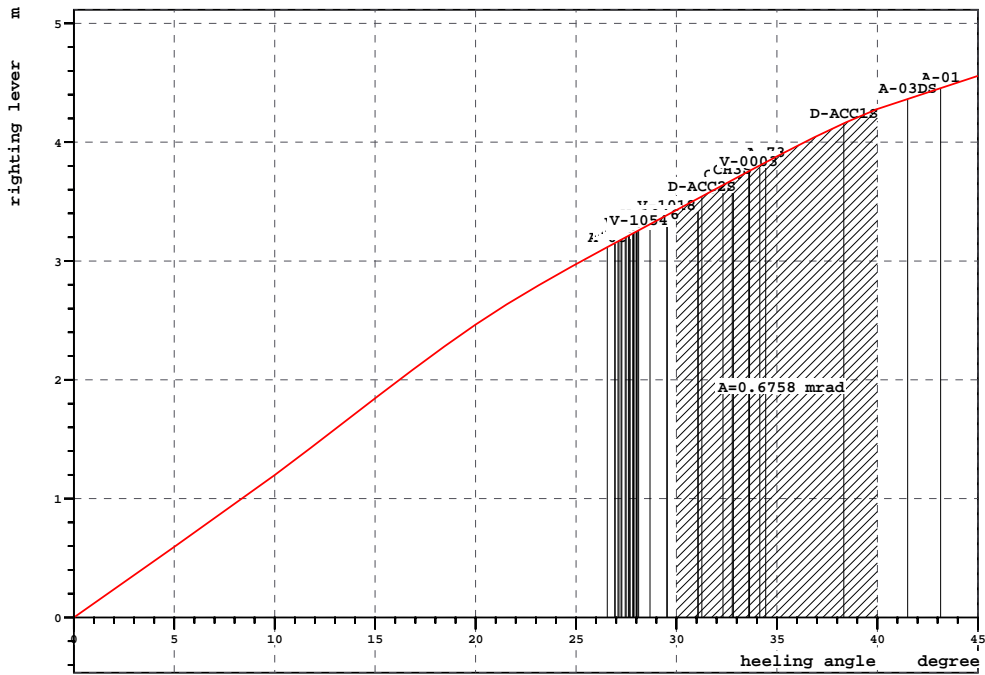
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3881.2 t (41.6%)	POSITION:	27.2 m	34
SHEAR FORCE (MAX,CORR)	4468.9 t (48.9%)		114.8 m	144
SAGGING MOMENT	-99435.1 tm (58.4%)		51.4 m	64
HOGGING MOMENT	80702.9 tm (37.0%)		131.9 m	165

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4772.7 t (53.9%)	POSITION:	144.8 m	181
SHEAR FORCE (MAX,CORR)	6983.5 t (77.1%)		57.8 m	72
SAGGING MOMENT	-69707.6 tm (53.8%)		39.0 m	49
HOGGING MOMENT	130347.8 tm (55.9%)		126.7 m	158

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.943 mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.618 mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.676 mrad	OK
GZ0.2	Max GZ > 0.2	0.200	4.558 m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000 deg	OK
GM0.15	GM > 0.15 m	0.150	6.793 m	OK
IMOWEATHER	IMO weather criterion	1.000	4.181	OK
GMD	GM > 1.20 m ref. damage stability	1.200	6.793 m	OK

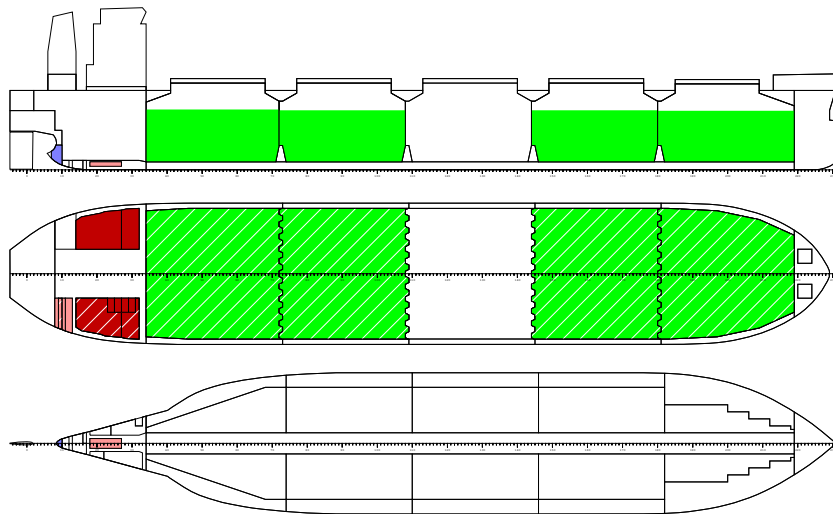
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*09, CEM 1.35 T/M3 - DEP 100 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	64781 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	11.67 m		
Draught aft (below keel)	13.46 m		
Mean draught (below keel)	12.56 m	Trim	1.79 m
KM above the moulded base	13.77 m		
KG0 (solid)	8.82 m	GM0 (solid)	4.95 m
Free surface correction	0.03 m		-0.03 m
KG (fluid)	8.86 m	GM (fluid)	4.92 m
Actual heel	-0.50 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Ore (RHO=1.35)							
CH1	NO.1 CARGO HOLD	12175.0	73	158.71	0.00	7.85	0
CH2	NO.2 CARGO HOLD	13065.0	73	130.03	0.00	7.88	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	13065.0	73	72.43	0.00	7.88	0
CH5	NO.5 CARGO HOLD	12990.0	73	43.32	0.00	8.28	0

TOTAL		51295.0		100.21	0.00	7.97	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	138.7	98	14.20	-11.81	15.60	179
DOSER1	NO.1 DO SERVICE TANK	18.8	98	15.20	-7.20	15.71	4
DOSER2	NO.2 DO SERVICE TANK	18.8	98	12.00	-7.20	15.71	4
DOSET	DO SETTLLING TANK	18.8	98	13.60	-7.20	15.71	4

SUBTOTAL		195.2		14.02	-10.48	15.63	190
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	119.5	100	-0.81	8.22	15.85	87
FWS	FW TANK S	119.5	100	-0.81	-8.22	15.85	87

SUBTOTAL		239.1		-0.81	0.00	15.85	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	404.0	98	23.89	9.94	12.45	205
HO1S	NO.1 HFO DEEP S	319.7	98	24.06	-10.64	12.20	168
HO2P	NO.2 HFO DEEP P	496.4	98	17.88	9.47	12.27	565
HO2S	NO.2 HFO DEEP S	441.5	98	17.44	-9.93	12.28	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		1829.9		20.52	-0.15	12.41	1424
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	15.1	98	6.81	-8.41	11.74	25
LOST2	NO.2 LO STORE TK	16.5	98	7.61	-8.55	11.66	28
CYL1	NO.1 CYL OIL TK	17.8	98	8.40	-8.70	11.59	31
CYL2	NO.2 CYL OIL TK	39.2	98	9.62	-8.92	11.52	73
SUMP	LO SUMP TANK	14.2	98	18.00	0.00	1.30	6
LOAUX1	NO.1 LO A/E TANK	3.8	98	2.00	-3.20	15.62	0
LOAUX2	NO.2 LO A/E TANK	3.8	98	2.00	-4.80	15.62	0
LOS	LO STERN TUBE TK	1.8	98	1.20	2.90	14.77	0
CYLS1	NO.1 CYL OIL SERV. TK	0.7	98	26.20	2.80	14.50	0
CYLS2	NO.2 CYL OIL SERV. TK	0.7	98	26.20	3.60	14.50	0

SUBTOTAL		113.5		9.36	-7.00	10.66	164
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	0.0	0	16.23	-2.45	1.50	0
SLUD	SLUDGE OIL TANK	0.0	0	17.25	2.56	1.46	0
STDR	STERN TUBE DRAIN TK	0.0	0	8.89	0.00	1.58	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	15.0	0	20.00	0.00	19.00	0

SUBTOTAL		55.0		20.00	0.00	16.82	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	0.0	0	8.96	8.82	11.61	224
BWH	BILGE WATER TANK	0.0	0	23.40	3.18	1.27	0
FWD	FEED WATER TANK	0.0	0	11.95	-0.18	1.34	0
FWDR	FW DRAIN TANK	0.0	0	13.21	1.03	1.28	0

SUBTOTAL		8.8		7.26	-0.00	3.23	224

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	53736.4	96.44	-0.06	8.20
Total weight	64780.5	94.34	-0.05	8.82

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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.87

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.71 M

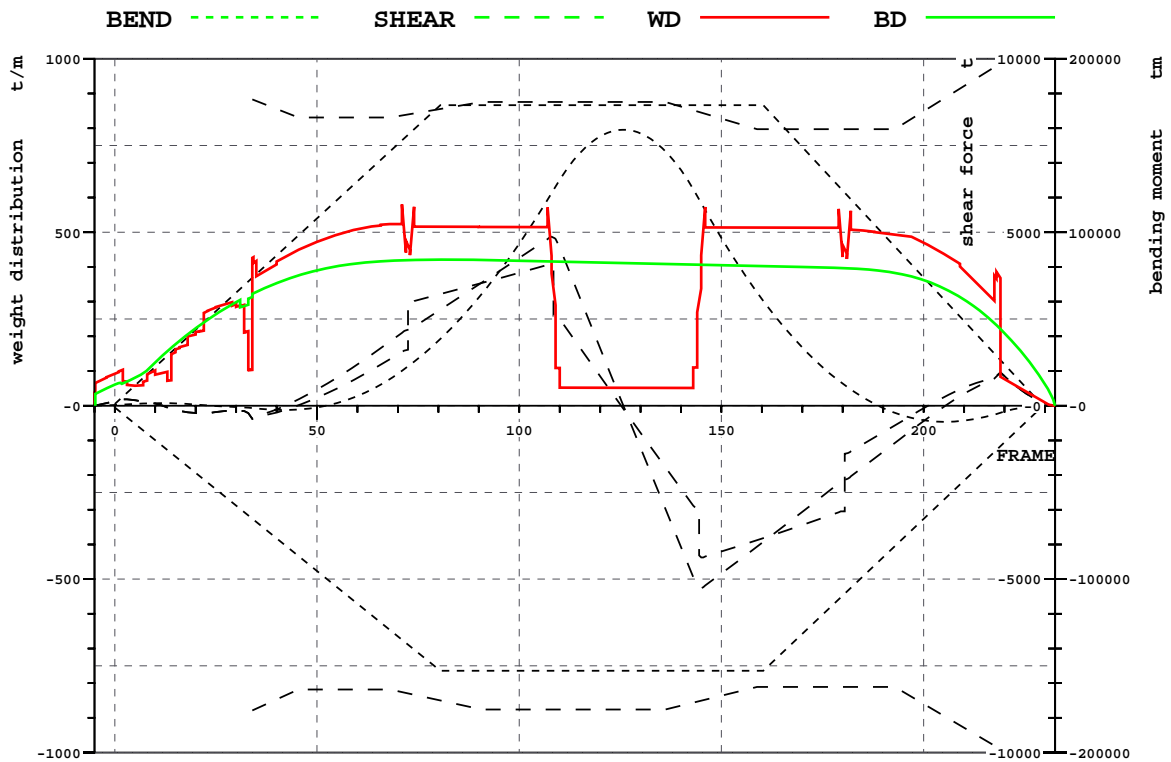
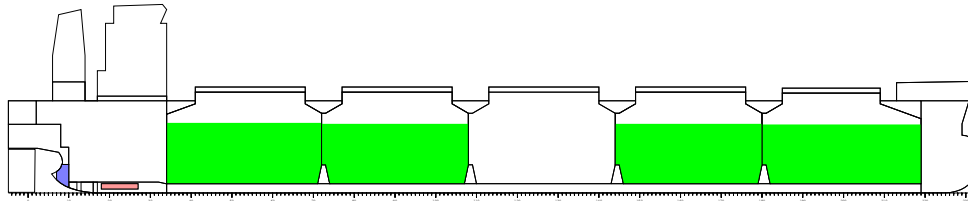
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.64 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.35 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.07 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 6.79 M

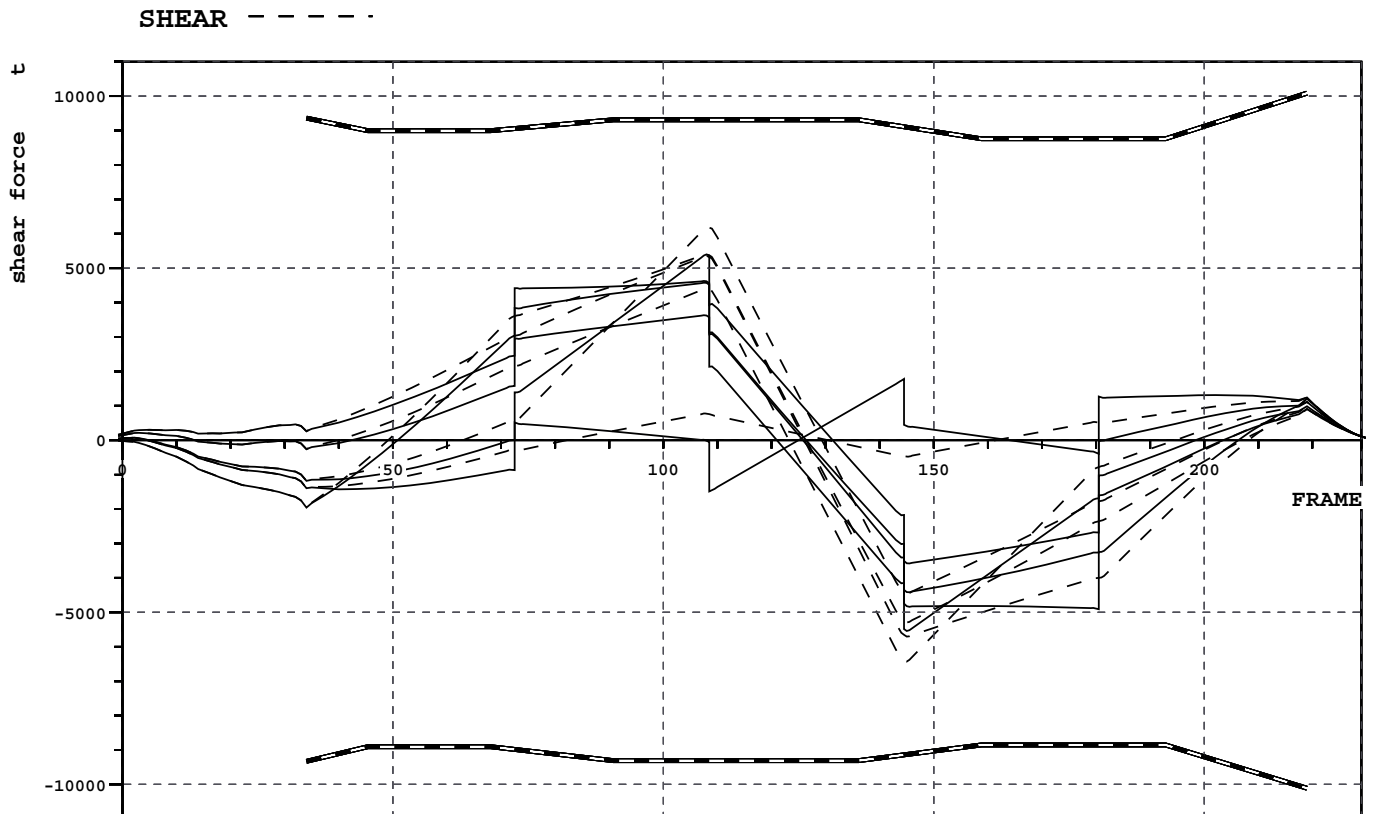
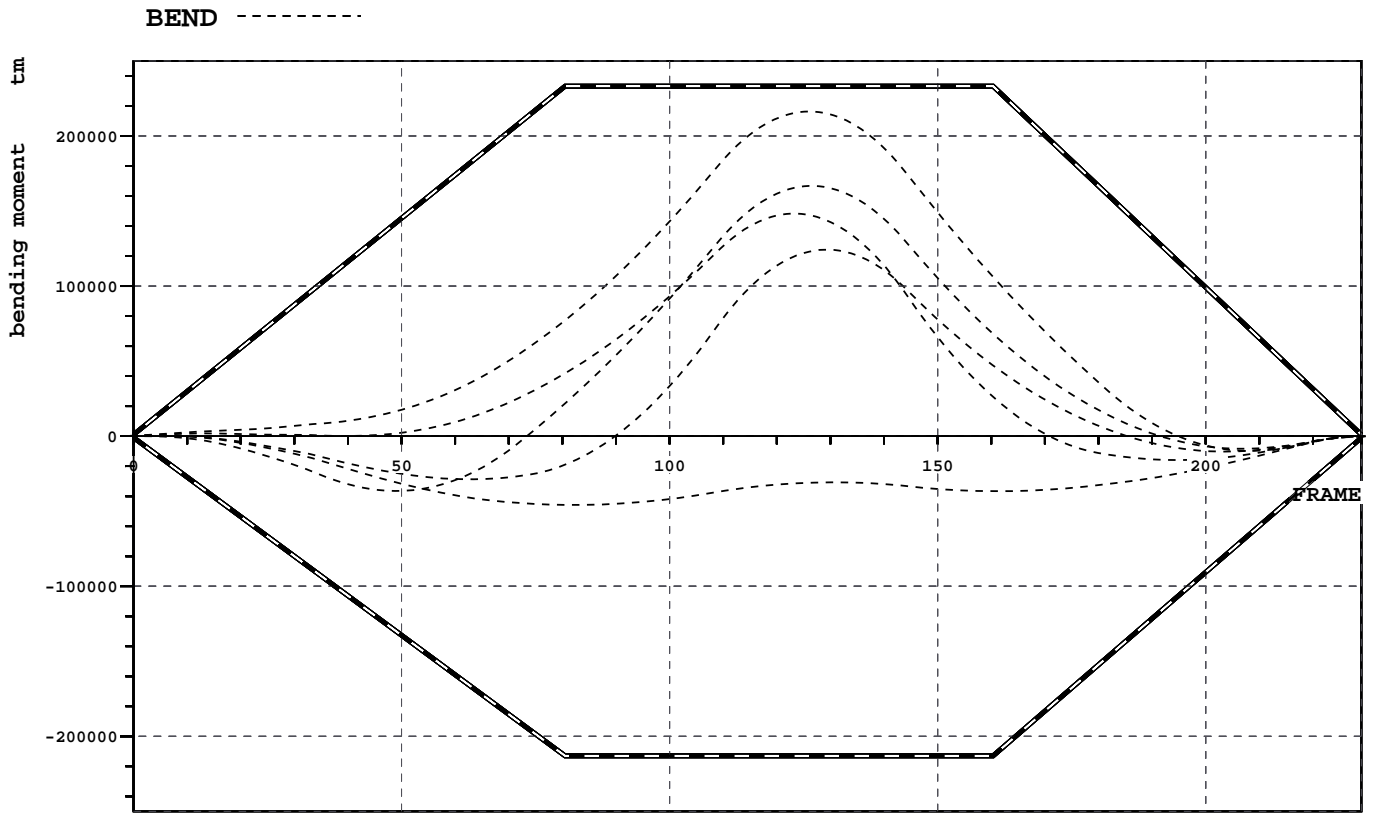
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-4379.2 t	(51.5%)	116.2 m	145
SHEAR FORCE (MAX,CORR)	4088.3 t	(46.7%)	86.2 m	108
SAGGING MOMENT	-9327.3 tm	(17.4%)	164.2 m	205
HOGGING MOMENT	159070.1 tm	(91.8%)	100.5 m	126

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-1367	73770	-8786	-380	-380	8830
72.50	-137807	22661	156169	-8294	2191	1612	8395
72.50	-137811	22665	156173	-8294	2191	3000	8395
108.50	-152905	124602	173293	-8758	4847	4038	8758
108.50	-152905	124606	173293	-8758	4847	2600	8758
144.50	-152905	118927	173293	-8517	-5227	-2980	8468
144.50	-152905	118919	173293	-8517	-5227	-4316	8467
180.50	-108361	11834	122770	-8106	-2135	-3046	7971
180.50	-108357	11830	122765	-8106	-2135	-1384	7971
219.00	-23246	-4084	26231	-9904	956	956	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4908.6 t	(55.4%)	POSITION:	144.4 m 181
SHEAR FORCE (MAX,CORR)	4579.6 t	(49.2%)		86.0 m 108
SAGGING MOMENT	-9819.1 tm	(14.9%)		166.5 m 208
HOGGING MOMENT	216344.0 tm	(92.8%)		100.8 m 126

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5543.1 t	(60.7%)	POSITION:	116.0 m 145
SHEAR FORCE (MAX,CORR)	3634.8 t	(39.0%)		86.0 m 108
SAGGING MOMENT	-15931.1 tm	(14.9%)		155.8 m 195
HOGGING MOMENT	148303.4 tm	(63.6%)		98.6 m 123

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-1488.1 t	(16.0%)	POSITION:	86.8 m 109
SHEAR FORCE (MAX,CORR)	1782.4 t	(19.6%)		115.6 m 145
SAGGING MOMENT	-45871.9 tm	(21.5%)		65.7 m 82
HOGGING MOMENT	306.8 tm	(2.1%)		3.8 m 5

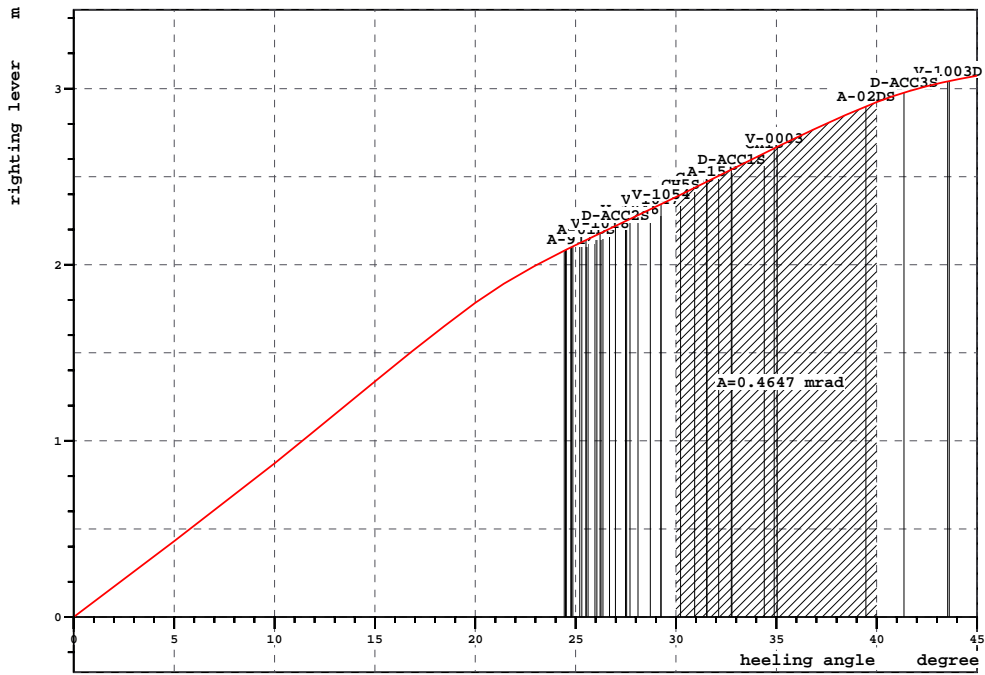
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3580.6 t	(39.3%)	POSITION:	116.4 m 146
SHEAR FORCE (MAX,CORR)	5397.9 t	(58.0%)		86.4 m 108
SAGGING MOMENT	-28746.3 tm	(17.3%)		50.3 m 63
HOGGING MOMENT	124270.0 tm	(53.3%)		103.4 m 129

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4416.5 t	(48.4%)	POSITION:	116.2 m 145
SHEAR FORCE (MAX,CORR)	4629.9 t	(49.7%)		86.0 m 108
SAGGING MOMENT	-36545.4 tm	(28.1%)		39.1 m 49
HOGGING MOMENT	166722.3 tm	(71.5%)		101.2 m 126

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN	UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.676	mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.140	mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.465	mrad	OK
GZ0.2	Max GZ > 0.2	0.200	3.073	m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000	deg	OK
GM0.15	GM > 0.15 m	0.150	4.915	m	OK
IMOWEATHER	IMO weather criterion	1.000	3.250		OK
GMD	GM > 1.20 m ref. damage stability	1.200	4.915	m	OK

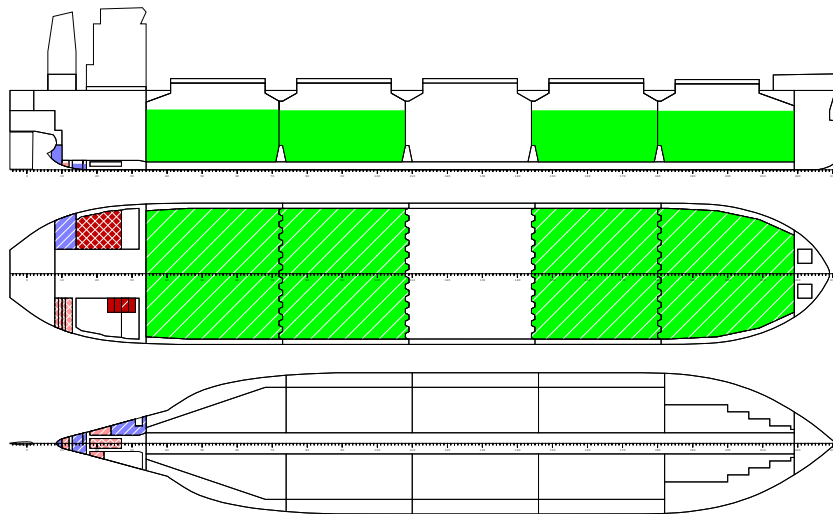
STABILITY AND FLOATING INFORMATION

LOADING CONDITION B*10, CEM 1.35 T/M3 - ARR 10 % (REQ BC-A)

FLOATING POSITION / calculation method: free trim

Displacement	62731 t	Density	1.025 t/m3
Keel thickness	0.022 m		
Draught fore (below keel)	12.26 m		
Draught aft (below keel)	12.21 m		
Mean draught (below keel)	12.23 m	Trim	-0.05 m
KM above the moulded base	13.68 m		
KG0 (solid)	8.68 m	GM0 (solid)	5.01 m
Free surface correction	0.03 m		-0.03 m
KG (fluid)	8.71 m	GM (fluid)	4.98 m
Actual heel	-0.05 degr		

PLOT OF SHIP MODEL



CARGO AND BALLAST INFORMATION

NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Ore (RHO=1.35)							
CH1	NO.1 CARGO HOLD	12175.0	73	158.71	0.00	7.85	0
CH2	NO.2 CARGO HOLD	13065.0	73	130.03	0.00	7.88	0
CH3	NO.3 CARGO HOLD	0.0	0	101.22	0.00	10.21	0
CH4	NO.4 CARGO HOLD	13065.0	73	72.43	0.00	7.88	0
CH5	NO.5 CARGO HOLD	12990.0	73	43.32	0.00	8.28	0

TOTAL		51295.0		100.21	0.00	7.97	0

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Diesel Oil (RHO=0.85)							
DOS	DO DEEP TANK S	0.0	0	14.20	-11.76	15.65	179
DOSER1	NO.1 DO SERVICE TANK	15.0	78	15.20	-7.20	15.26	4
DOSER2	NO.2 DO SERVICE TANK	0.0	0	12.00	-7.19	15.75	0
DOSET	DO SETTLLING TANK	10.0	52	13.60	-7.20	14.67	4

SUBTOTAL		25.0		14.56	-7.20	15.02	186
CONTENTS=Fresh Water (RHO=1)							
FWP	FW TANK P	15.0	13	-0.68	7.68	13.88	87
FWS	FW TANK S	0.0	0	-0.81	-8.22	15.85	87

SUBTOTAL		15.0		-0.68	7.68	13.88	174
CONTENTS=Heavy Fuel Oil (RHO=0.95)							
HO1P	NO.1 HFO DEEP P	0.0	0	23.89	9.91	12.56	0
HO1S	NO.1 HFO DEEP S	0.0	0	24.07	-10.62	12.31	0
HO2P	NO.2 HFO DEEP P	20.0	4	19.88	7.53	7.11	565
HO2S	NO.2 HFO DEEP S	0.0	0	17.47	-9.93	12.39	470
HOSER1	NO.1 HFO SERVICE TANK	42.1	98	22.40	-7.20	13.41	4
HOSER2	NO.2 HFO SERVICE TANK	42.1	98	20.80	-7.20	13.41	4
HOSET1	NO.1 HFO SETTLLING TANK	42.1	98	24.00	-7.20	13.41	4
HOSET2	NO.2 HFO SETTLLING TANK	42.1	98	19.20	-7.20	13.41	4
HOOV	HFO OVERFLOW TK	0.0	0	22.69	-3.19	1.31	0

SUBTOTAL		188.3		21.42	-5.64	12.74	1051
CONTENTS=Lubricating Oil (RHO=0.9)							
LOST1	NO.1 LO STORE TK	1.5	10	6.82	-6.77	9.67	2
LOST2	NO.2 LO STORE TK	1.7	10	7.62	-6.94	9.55	3
CYL1	NO.1 CYL OIL TK	1.8	10	8.41	-7.16	9.47	4
CYL2	NO.2 CYL OIL TK	3.9	10	9.64	-7.52	9.39	73
SUMP	LO SUMP TANK	1.4	10	18.00	0.00	0.85	6
LOAUX1	NO.1 LO A/E TANK	0.4	10	2.00	-3.20	14.12	0
LOAUX2	NO.2 LO A/E TANK	0.4	10	2.00	-4.80	14.12	0
LOS	LO STERN TUBE TK	0.2	10	1.20	2.90	13.63	0
CYLS1	NO.1 CYL OIL SERV. TK	0.1	10	26.20	2.80	14.05	0
CYLS2	NO.2 CYL OIL SERV. TK	0.1	10	26.20	3.60	14.05	0

SUBTOTAL		11.3		9.38	-5.81	8.83	88
CONTENTS=Misc Oil (RHO=0.9)							
HODR	HFO DRAIN TANK	2.2	49	16.29	-2.33	1.13	0
SLUD	SLUDGE OIL TANK	4.0	49	17.36	2.42	1.06	1
STDR	STERN TUBE DRAIN TK	2.0	49	8.94	0.00	1.27	2

SUBTOTAL		8.1		15.03	0.57	1.13	3

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NAME	TEXT	MASS t	FILL %	LCG m	TCG m	VCG m	FRSM tm

CONTENTS=Stores and Provision (RHO=1)							
S02	CREW AND EFFECTS	10.0	0	20.00	0.00	22.00	0
S03	STORES	30.0	0	20.00	0.00	14.00	0
S04	PROVISION	5.0	0	20.00	0.00	19.00	0

SUBTOTAL		45.0		20.00	0.00	16.33	0

CONTENTS=Misc Water (RHO=1)

STC	S/T COOLING	8.8	100	7.26	-0.00	3.23	0
SEW	SEWAGE HOLDING TK	62.3	50	9.03	8.26	10.57	224
BWH	BILGE WATER TANK	17.5	50	23.64	2.99	0.80	15
FWD	FEED WATER TANK	8.7	50	11.99	-0.16	0.89	13
FWDR	FW DRAIN TANK	1.5	50	13.21	0.85	0.82	1

SUBTOTAL		98.9		11.79	5.73	7.18	252

CONTENTS=Water Ballast (RHO=1.025)

FPT	FORE PEAK TANK	0.0	0	179.02	0.00	9.30	0
DB1P	NO.1 DB BALLAST P	0.0	0	157.12	5.15	0.91	0
DB1S	NO.1 DB BALLAST S	0.0	0	157.12	-5.15	0.91	0
WT1P	NO.1 WT BALLAST P	0.0	0	158.83	12.75	7.19	0
WT1S	NO.1 WT BALLAST S	0.0	0	158.83	-12.75	7.19	0
DB2P	NO.2 DB BALLAST P	0.0	0	132.91	7.49	1.24	0
DB2S	NO.2 DB BALLAST S	0.0	0	132.91	-7.49	1.24	0
WT2P	NO.2 WT BALLAST P	0.0	0	130.60	14.86	8.90	0
WT2S	NO.2 WT BALLAST S	0.0	0	130.60	-14.86	8.90	0
DB3P	NO.3 DB BALLAST P	0.0	0	104.11	7.49	1.24	0
DB3S	NO.3 DB BALLAST S	0.0	0	104.11	-7.49	1.24	0
WT3P	NO.3 WT BALLAST P	0.0	0	101.82	14.86	8.89	0
WT3S	NO.3 WT BALLAST S	0.0	0	101.82	-14.86	8.89	0
DB4P	NO.4 DB BALLAST P	0.0	0	75.31	7.49	1.24	0
DB4S	NO.4 DB BALLAST S	0.0	0	75.31	-7.49	1.24	0
WT4P	NO.4 WT BALLAST P	0.0	0	73.13	14.85	8.98	0
WT4S	NO.4 WT BALLAST S	0.0	0	73.13	-14.85	8.98	0
DB5P	NO.5 DB BALLAST P	0.0	0	49.43	6.38	1.38	0
DB5S	NO.5 DB BALLAST S	0.0	0	49.43	-6.38	1.38	0
WT5P	NO.5 WT BALLAST P	0.0	0	41.00	12.97	5.76	0
WT5S	NO.5 WT BALLAST S	0.0	0	41.00	-12.97	5.76	0
TECHP	HOLD WASH WATER P	0.0	0	42.71	14.54	15.71	0
TECHS	HOLD WASH WATER S	0.0	0	42.71	-14.54	15.71	0
APT	AFT PEAK TANK	0.0	0	2.33	0.00	11.53	0

SUBTOTAL		0.0		0.00	0.00	0.00	0

LIGHT SHIP AND DEAD WEIGHT

Lightweight	11044.1	84.08	0.00	11.85
Deadweight	51686.6	99.58	-0.01	8.00
Total weight	62730.8	96.85	-0.01	8.68

Carl Bro a/s - DMC
NAPA/D/LD/060614
P40357500/CXS4210
P40357500

DIAMOND 53
CONDITION B*10
INTACT STABILITY

DATE 2006-09-25
TIME 18:40
USER PSB
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VISIBILITY AND AIR DRAUGHT

CALCULATED VISIBILITY EXPRESSED IN SHIPS LENGTH = 0.72

PANAMA FULL LOAD CONDITION REQUIRED VISIBILITY = MAX 1.00

PANAMA BALLAST CONDITION REQUIRED VISIBILITY = MAX 1.50

IMO REQUIRED VISIBILITY = MAX 2.00

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.1 CARGO HOLD = 7.37 M

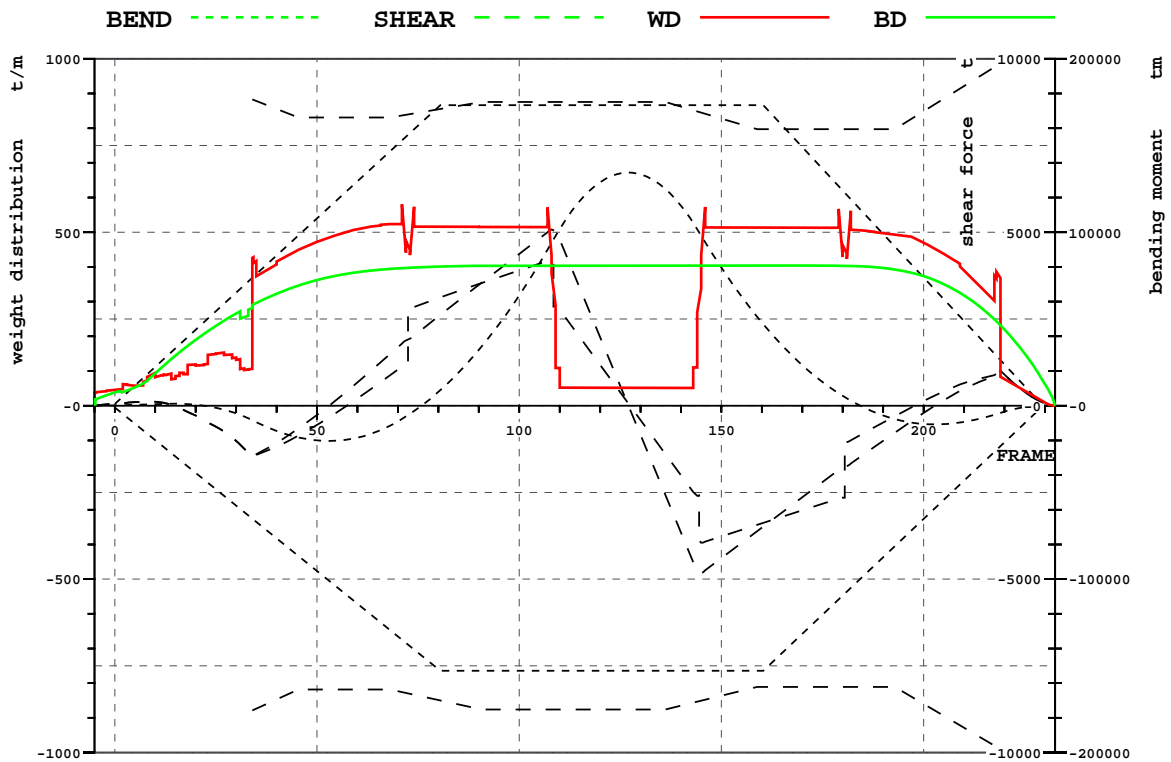
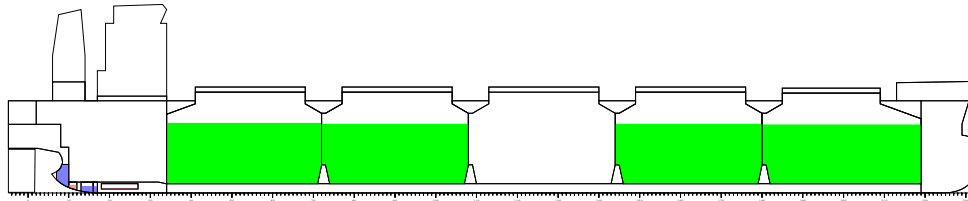
AIR DRAUGHT (HEIGHT COAMING TO WL) NO.2 CARGO HOLD = 7.58 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.3 CARGO HOLD = 7.59 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.4 CARGO HOLD = 7.59 M

AIR DRAUGHT (HEIGHT COAMING TO WL) NO.5 CARGO HOLD = 7.60 M

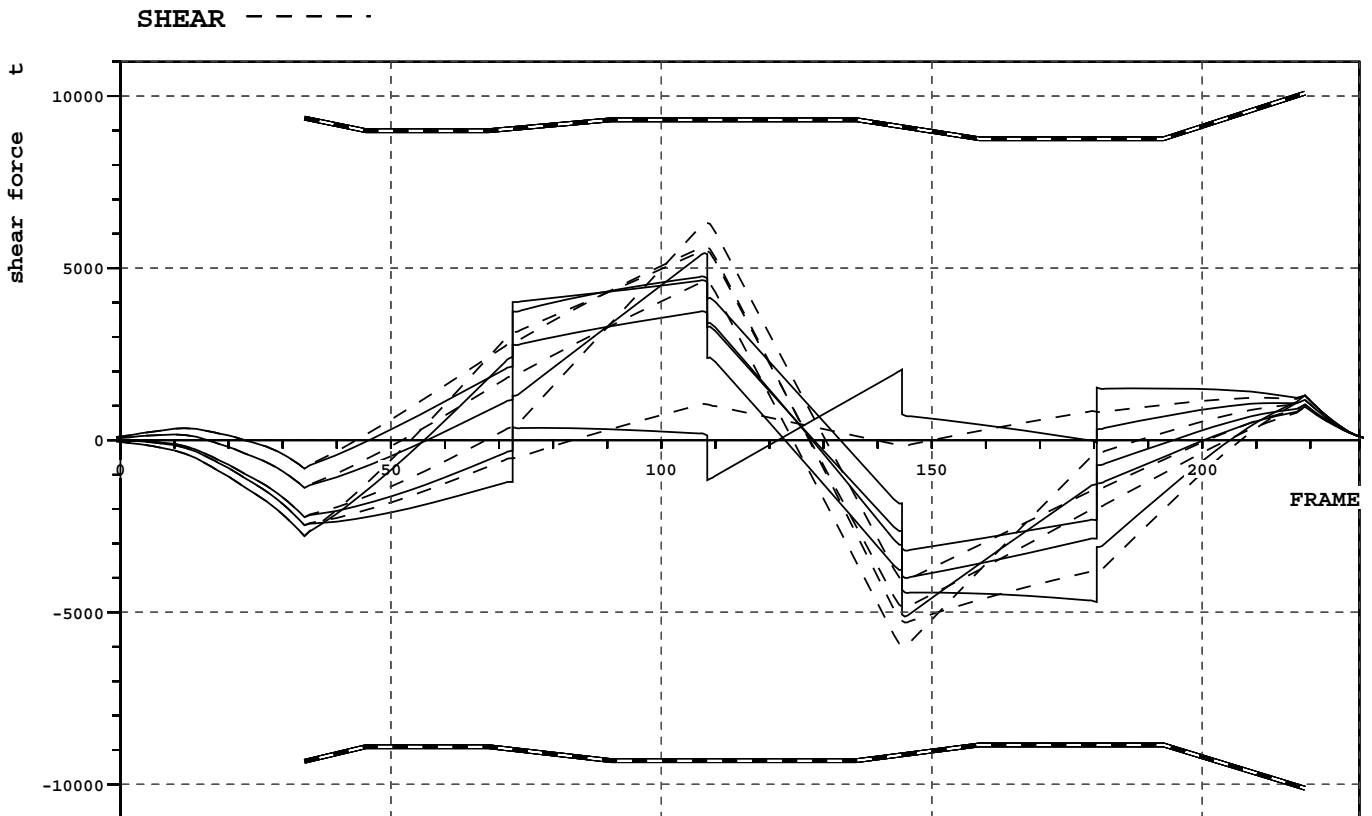
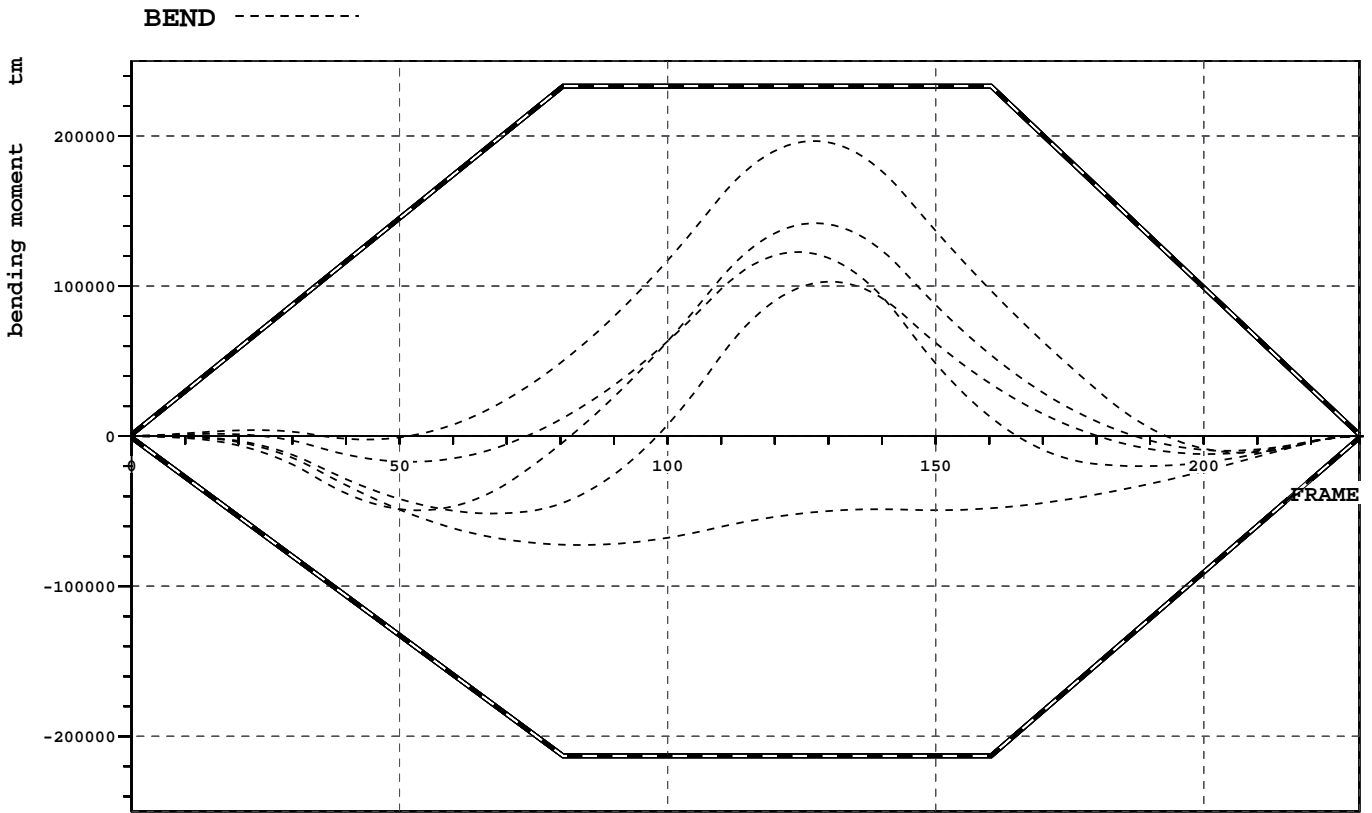
CHECK OF LONGITUDINAL STRENGTH



			X	FRAME
SHEAR FORCE (MIN,CORR)	-3953.0 t	(46.5%)	116.2 m	145
SHEAR FORCE (MAX,CORR)	4204.5 t	(48.0%)	86.2 m	108
SAGGING MOMENT	-20345.8 tm	(20.1%)	42.5 m	53
HOGGING MOMENT	134382.4 tm	(77.5%)	101.6 m	127

FRAME #	BM.MIN tm	BM.ACT tm	BM.MAX tm	SF.MIN t	SF.UNC t	SF.CORR t	SF.MAX t
34.00	-65159	-8415	73770	-8786	-1500	-1500	8830
72.50	-137807	-5479	156169	-8294	1908	1216	8395
72.50	-137811	-5476	156173	-8294	1908	2811	8395
108.50	-152905	95865	173293	-8758	5061	4158	8758
108.50	-152905	95869	173293	-8758	5061	2856	8758
144.50	-152905	99929	173293	-8517	-4792	-2587	8468
144.50	-152905	99921	173293	-8517	-4792	-3892	8467
180.50	-108361	4950	122770	-8106	-1756	-2656	7971
180.50	-108357	4947	122765	-8106	-1756	-1056	7971
219.00	-23246	-4163	26231	-9904	1012	1012	9867

CHECK OF LONGITUDINAL STRENGTH AFTER FLOODING



LIST OF STRENGHT AFTER FLOODING OF NO.1 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4701.3 t (53.1%)	POSITION:	144.4 m	181
SHEAR FORCE (MAX,CORR)	4760.2 t (51.1%)		86.0 m	108
SAGGING MOMENT	-11017.1 tm (16.1%)		165.7 m	207
HOGGING MOMENT	196665.0 tm (84.3%)		101.9 m	127

LIST OF STRENGHT AFTER FLOODING OF NO.2 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-5122.9 t (56.1%)	POSITION:	116.0 m	145
SHEAR FORCE (MAX,CORR)	3747.9 t (40.3%)		86.0 m	108
SAGGING MOMENT	-20020.9 tm (15.8%)		150.6 m	188
HOGGING MOMENT	122662.1 tm (52.6%)		99.3 m	124

LIST OF STRENGHT AFTER FLOODING OF NO.3 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-2471.6 t (26.5%)	POSITION:	27.2 m	34
SHEAR FORCE (MAX,CORR)	2057.0 t (22.6%)		115.6 m	145
SAGGING MOMENT	-72556.8 tm (34.1%)		66.8 m	84
HOGGING MOMENT	14.0 tm (1.4%)		-0.6 m	-1

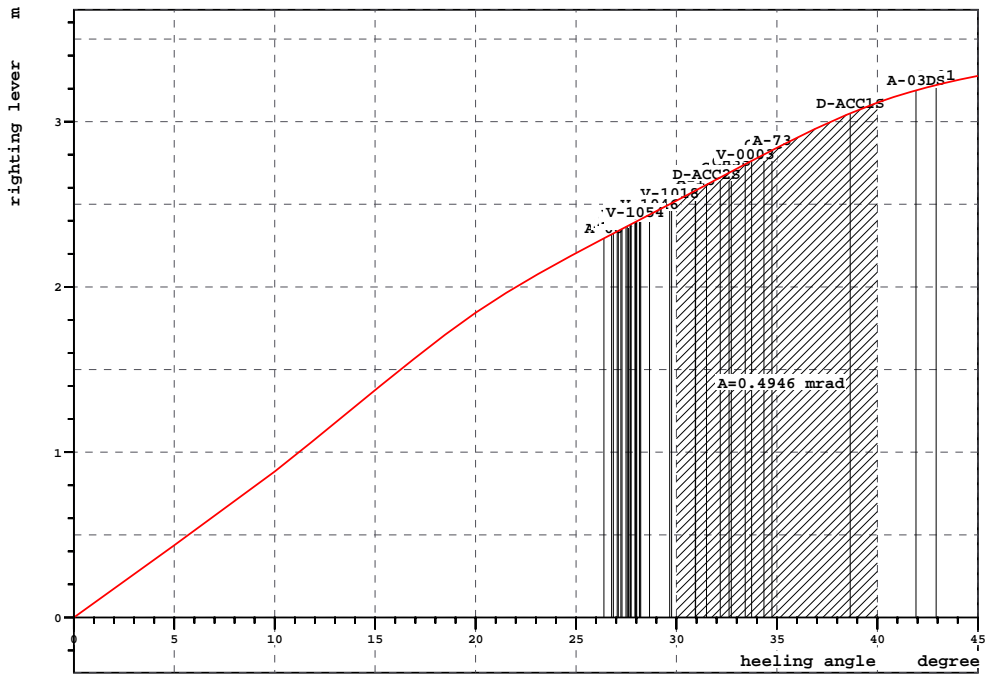
LIST OF STRENGHT AFTER FLOODING OF NO.4 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-3210.3 t (35.2%)	POSITION:	116.2 m	145
SHEAR FORCE (MAX,CORR)	5436.1 t (58.4%)		86.4 m	108
SAGGING MOMENT	-51573.0 tm (28.8%)		54.0 m	68
HOGGING MOMENT	102918.6 tm (44.1%)		104.2 m	130

LIST OF STRENGHT AFTER FLOODING OF NO.5 HOLD

			X	FRAME
SHEAR FORCE (MIN,CORR)	-4003.8 t (43.9%)	POSITION:	116.2 m	145
SHEAR FORCE (MAX,CORR)	4650.6 t (50.0%)		86.0 m	108
SAGGING MOMENT	-49430.0 tm (34.8%)		42.9 m	54
HOGGING MOMENT	141901.3 tm (60.8%)		101.9 m	127

CHECK OF INTACT STABILITY



INTACT STABILITY ACC. TO RELEVANT RULES

RCR	TEXT	REQ	ATTN UNIT	STAT
AREA30	Area under GZ curve up to 30 deg.	0.055	0.699 mrad	OK
AREA40	Area under GZ curve up to 40 deg.	0.090	1.194 mrad	OK
AREA3040	Area under GZ curve betw. 30 and 40.	0.030	0.495 mrad	OK
GZ0.2	Max GZ > 0.2	0.200	3.277 m	OK
MAXGZ25	Max. GZ at an angle > 25 deg.	25.000	45.000 deg	OK
GM0.15	GM > 0.15 m	0.150	4.977 m	OK
IMOWEATHER	IMO weather criterion	1.000	3.914	OK
GMD	GM > 1.20 m ref. damage stability	1.200	4.977 m	OK