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Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

28 NOV 1932

Index No. **28167**
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Prop., Bridge, Forecastle & Trunk
MITU MARU

Port of Survey Hongkong
Date of Survey Oct. 3, 1932

(Type of Superstructures.)
Ship's Name "CONCORDIA"
Nationality and Port of Registry Norwegian Japanese
Official Number 44138
Gross Tonnage 5685
Date of Build 1919

Name of Surveyor J. S. Morrison

Moulded Dimensions: Length 399.60 Breadth 52.0 Depth 31.0
Moulded displacement at moulded draught = 85 per cent. of moulded depth 13 000 tons
Coefficient of fineness for use with Tables 2

Particulars of Classification +100 A1
Carrying O.F. in Bulk F.P. above 150° F.
S.S. Ka No 2-28

Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth	...	31.0	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	
Stringer plate	11 1/2"	20"	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	
Weathering on exposed deck	None				Ship's Round of Beam	13"
T $\left(\frac{L-S}{L}\right) =$					Difference	
Depth for Freeboard (D) =			If restricted by superstructures		Restricted to	
					Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right)$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	49.5		7'-6"		
" overhang ...	✓		7'-3"		
R.Q.D. enclosed ...	✓				
" overhang ...	✓				
Bridge enclosed ...	121.0		7'-6"		
" overhang aft ...	✓				
" overhang forward ...	✓				
Forecastle enclosed ...	39.0		7'-6"		
" overhang ...	✓		6'-6"		
Trunk aft ...	87.1		7'-6"		
" forward ...	103.0		7'-6"		
Tonnage opening aft ...	✓				
" forward ...	✓				
Total ...					

Standard Height of Superstructure _____
" " R.Q.D. _____
Deduction for complete superstructure _____
Percentage covered $\frac{S}{L} =$ _____
" " $\frac{S_1}{L} =$ _____
" " $\frac{E}{L} =$ _____
Percentage from Table, Line A.
(corrected for absence of forecastle (if required))
Percentage from Table, Line B.
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = _____

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...		1			48.00		1		
1/8 L from A.P. ...		4			11.25		4		
2/8 L " ...		2			0		2		
Amidships ...		4			0.75		4		
2/8 L from F.P. ...		2			1.00		2		
1/8 L " ...		4			17.00		4		
F.P. ...		1			89.00		1		
Total ...									

Mean actual sheer aft =
Mean standard sheer aft =

Mean actual sheer forward =
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =
L

" " aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) =$

If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck =
Summer freeboard =
Moulded draught (d) =

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$
Tons per inch immersion at summer load water line
T =

Deduction = $\frac{\Delta}{40T}$ inches

See Letter

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ...
Deduction for superstructures ...
Sheer correction ...
Round of Beam correction ...
Correction for Thickness of Deck amidships ...
Other corrections, scantlings, etc. ...

+	-

Summer Freeboard =

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ...
Fresh Water Line " " ...
Tropical Line " " ...
Winter Line below " " ...
Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ...
Fresh Water " ...
Tropical " ...
Winter " ...
Winter North Atlantic " ...

RECEIVED 4.11.33
MARKING FORM

freeboards assigned at turn request.
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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway			On Fore Trunk Deck					On Aft Trunk Deck			On Bridge Deck
Dimensions of Hatchway			Fore Hold	No 1 Tank	No 2 Tank	No 3 Tank	No 4 Tank	No 5 Tank	Aft Hold	Coal Hatch (6 off)	Coal Hatch (1 off)
			23' x 18'	7' x 8' 3"	17' x 8' 3"	6' x 8' 3"	19' 6" x 8' 3"	17' 8" x 8' 3"	13' x 18'	8' x 4'	7' 6" x 18'
COAMINGS	Height above Deck	...	30	30	30	30	30	30	30	30	30
	Thickness	Sides	44	44	44	44	44	44	44	44	44
	Thickness	Ends	44	44	44	44	44	44	44	44	44
	Stiffeners	...	7 x 3 x 3/20 BA	7 x 3 x 3/20 BA	7 x 3 x 3/20 BA	7 x 3 x 3/20 BA	7 x 3 x 3/20 BA	7 x 3 x 3/20 BA	7 x 3 x 3/20 BA	7 x 3 x 3/20 BA	7 x 3 x 3/20 BA
			None	None	None	None	None	None	None	None	None
HATCH BEAMS	Number	...	4	4	4	4	4	4	4	4	4
	Spacing	...	4'-7"	4'-7"	4'-7"	4'-7"	4'-7"	4'-7"	4'-7"	4'-7"	4'-7"
	Scantling and Sketch	...	16" x 36 angles 4 x 3 x 44	16" x 36 angles 4 x 3 x 44	16" x 36 angles 4 x 3 x 44	16" x 36 angles 4 x 3 x 44	16" x 36 angles 4 x 3 x 44	16" x 36 angles 4 x 3 x 44	16" x 36 angles 4 x 3 x 44	16" x 36 angles 4 x 3 x 44	16" x 36 angles 4 x 3 x 44
	Bearing Surface	...	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
FORE AND AFTERS	Number	...	None	None	None	None	None	None	None	None	None
	Spacing	...	None	None	None	None	None	None	None	None	None
	Unsupported Lengths	...	None	None	None	None	None	None	None	None	None
	Scantling and Sketch	...	None	None	None	None	None	None	None	None	None
			None	None	None	None	None	None	None	None	None
HATCH COVERS	Material	...	Wood	Steel plate covers	Steel plate covers	Steel plate covers	Steel plate covers	Steel plate covers	Wood	Wood	Wood
	Thickness	...	2 1/2"	40" thick	40" thick	40" thick	40" thick	40" thick	2 1/2"	2 1/2"	2 1/2"
	How fitted	...	F + A	suitably stiffened & bolted to channels, bolts 5" Pitch.	suitably stiffened & bolted to channels, bolts 5" Pitch.	suitably stiffened & bolted to channels, bolts 5" Pitch.	suitably stiffened & bolted to channels, bolts 5" Pitch.	suitably stiffened & bolted to channels, bolts 5" Pitch.	F + A	F + A	F + A
	Bearing Surface	...	3"	oil feeder hatches on top 4' x 3', coaming 7 x 3 1/2 x 3/20, with plate covers 12" thick, fastened with 20 Turnbuckles	oil feeder hatches on top 4' x 3', coaming 7 x 3 1/2 x 3/20, with plate covers 12" thick, fastened with 20 Turnbuckles	oil feeder hatches on top 4' x 3', coaming 7 x 3 1/2 x 3/20, with plate covers 12" thick, fastened with 20 Turnbuckles	oil feeder hatches on top 4' x 3', coaming 7 x 3 1/2 x 3/20, with plate covers 12" thick, fastened with 20 Turnbuckles	oil feeder hatches on top 4' x 3', coaming 7 x 3 1/2 x 3/20, with plate covers 12" thick, fastened with 20 Turnbuckles	3"	2 1/2"	2 1/2"
Spacing of Cleats			30"	25"	25"	25"	25"	25"	25"	25"	25"
Number of Tarpaulins			3	2	2	2	2	2	2	2	2
<p>*Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/></p> <p>Are battens and wedges efficient and in good condition? <input checked="" type="checkbox"/></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/></p> <p>Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/></p>											
<p>On Freeboard deck, inside forecabin:- Hatch to F.P. store 3' x 3' - hatch to chain locker 2' x 2'. Coamings of 9 x 3 x 3/20 BA, wood covers 2 1/2", bearing surface 3", cleats spaced 24" x 13", one tarpaulin to each hatch. (Hatches continued on Page 4)</p>											

Particulars of fiddle, funnel and ventilator coamings:- Stokeshold gratings covered by strong steel hinged covers.
Fidley + funnel ventilators in efficient condition.
Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:- None

Particulars of Companionways:- one steel companion 4'-6" x 2'-6" x 6'-3" high on forecabin deck, leading to Forecabin, door of solid wood 1 5/8" thick, sill 16", door operated from outside only. Note Forecabin used as store only, crew berthed in Poop.
one steel companion 5'-5" x 5'-0" x 6'-7" high on poop deck, leading to enclosed Poop, door of solid wood 1 5/8" thick, sill 16", door operated from both sides.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:-

On Forecabin
1-11 1/2" dia, coaming 36" x 3/20 } To F.P. Store
1-8 1/2" " " 39" x 3/20 }

On Bridge 6-8" dia, coaming 36" x 3/20 to Bridge space

all ventilators constructed in accordance with the Rules & coamings closed with wood plugs & canvas covers where required.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:-

1-C.I. pipe on Forecabin deck 10" high x 4" dia. from fore peak tank.
1-Steel pipe on Trunk deck 12" high x 3" dia. from fore D.B. tank.
2-C.I. pipes on Bridge deck 7" high x 3" dia. from B.R. D.B. tank.
2-Steel " " 12" " x 3" " " E.R. " "
1-C.I. pipe on Poop deck 6" " x 4 1/2" " " aft Peak tank
all air pipes are closed with wood plugs & canvas covers.

Particulars of Gangway Cargo and Coaling Ports:- None



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Particulars of Scuppers and Sanitary Discharge Pipes - (None below freeboard deck)
Fitted with each steel storm valves at ships side + efficient traps or wood
p-go at inner ends.

Particulars of Side Scuttles: None below freeboard deck.
No deadlights provided for side scuttles to crew space in Poop.
Hinged deadlights fitted to side scuttles in Forecastle
No side scuttles in bridge space.
all scuttles of substantial construction.

Particulars of Guard Rails:- Guard rails on freeboard deck 3'-5" high, having 2 rods and
stanchions spaced 4'-8" apart.
Guard rails on forecastle, bridge, poop + Trunk 3'-3" high,
having 2 rods and stanchions spaced 4'-9" to 5'-0" apart.

Particulars of Gangways, Lifelines, etc.:- Trunk deck with guard rails P + S. forms gangway
between poop + bridge + between bridge + forecastle.

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well		<u>open rails</u>				
Forward Well						

State position of each freeing port { After Well :-
(F. and A. position and height above deck edge) { Forward Well :-
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :-

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

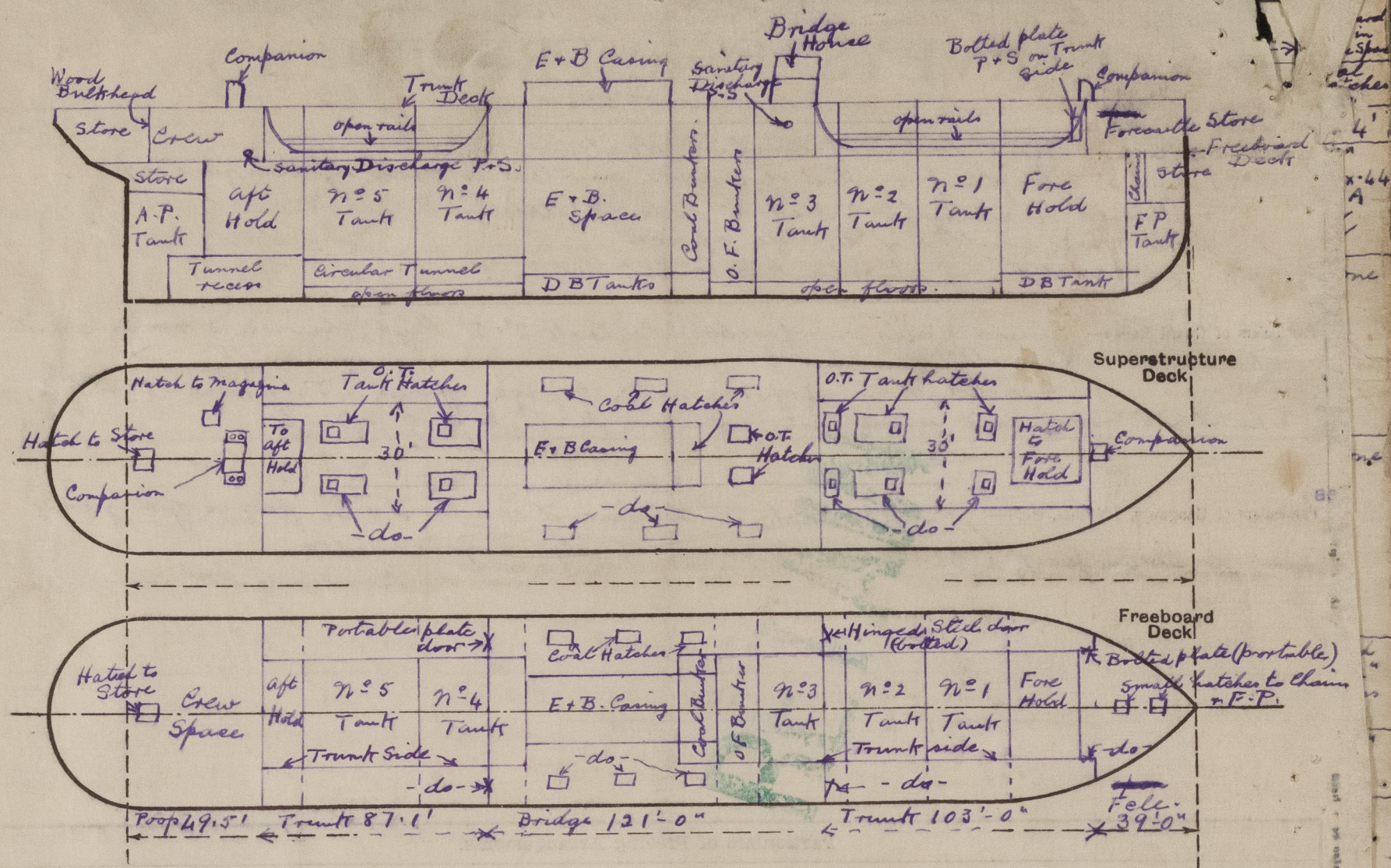
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	9/20"	9/20"	7 x 3 1/2 x 8/20 angles	29"	Brackets Top Lugs Bottom	None	✓	7'-6"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead	8/20"	8/20"	4 x 3 x 7/20 angles	32"	Brackets	5'-1" x 3'-0"	17"	7'-6"
Bridge, Forward Bulkhead	8/20"	8/20"	9 x 3 1/2 x 12/20 B.A.	38"	Brackets	5'-1" x 3'-2"	16 1/2"	7'-6"
Forecastle Bulkhead	✓	6/20"	3 x 3 x 9/20" angles	28"	Taken top both angles	5'-0" x 3'-5"	18"	7'-6"
Trunk, Aft	8/20"	8/20"	7 x 3 x 9/20 B.A. Horiz	30"	Brackets	None	✓	7'-6"
Trunk, Forward	8/20"	8/20"	7 x 3 x 9/20 B.A. Horizontal	30"	Brackets	None	✓	7'-6"
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Super- structure Decks	7/20"	7/20"	3 1/2 x 2 1/2 x 9/20 angles	28"	Brackets Top Taken bottom angles	4'-11" x 1'-11"	18"	7'-6"
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	6/20"	6/20"	7 x 3 x 7/20 Horiz. B.A. 16" x 8/20 Webs Vert. 11'-0"	45"	Brackets	None	✓	7'-6"
Deckhouses on Flush Deck Ships ...	✓							

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	No openings
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	Portable steel plates, fastened with hook bolts, spaced 12 1/2" apart.
Bridge, Forward Bulkhead	Hinged steel door, fastened with through bolts, spaced 5 1/2" + 10 1/2" apart, and bolted Horizontal Bulwangle
Forecastle Bulkhead	Portable steel plates, fastened with hook bolts, spaced 12" + 15" apart.
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super- structure Decks	Hinged steel door, can be operated from both sides.
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	No openings
Deckhouses on Flush Deck Ships ...	✓

Concordia.

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



State any special features in the construction of the ship:— Oil Tanker, Longitudinal framing & Web frames.
 Complete Special Survey N°3 has now been carried out.
 No freeboard certificate on board, the following particulars were obtained from an assignment letter issued by Det Norske Veritas, dated 13th July 19.
 Measured from deck line level with the surface of steel main deck at side
 F.W. = 5' 1 1/2" — 6 1/2" above
 T = 5' 2" — 6"
 S = 5' 8" — centre of disc
 W = 6' 1 1/2" — 5 1/2" below
 B.O.T = 5' 8" — centre of disc.

Hatches (continued)
 on Poop To Store:— 4' x 3' 10", coaming 17" x 8/20", wood hatch 2 1/2", bearing surface 2 1/2"
 Cleats spaced 19 1/2", 2 Taraulins
 To Magazine:— 3' 6" x 3' 4", coaming 18 3/4 x 7/20, wood cover 2 1/2", bearing surface 2 1/2"
 cleats spaced 19", 2 Taraulins.
 Inside Poop To store:— 4' x 3' 10", angle coaming 3 1/2 x 3 1/2 x 7/20, wood cover 2 1/2", fastened with locking bar, one taraulin.
 on Fore Trunk Deck To Pumps in Hold 2' 6" x 1' 8", coaming 30" x 9/20, wood cover 2 1/2", bearing surface 2 1/2", cleats spaced 14 1/2", 2 Taraulins.

Builder's name and yard number: Lithgows Ltd Port-Glasgow.

Names of sister ships

Owners: John. Hansens Tankredakti A/S

Fee: 408.00

Received by me



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