

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **31083.**
(For London Office only.)

29 MAR 1932

GLASGOW REPORT No. **52251**

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having **COMPLETE SUPERSTRUCTURE WITH TONNAGE OPENING**

(Type of Superstructures.)

Ship's Name HUMBER ARM.	Nationality and Port of Registry BRITISH ST. JAMES. N.F.L.	Official Number 151649	Gross Tonnage 5458	Date of Build 1925-Ymo.
-----------------------------------	--	----------------------------------	------------------------------	-----------------------------------

Moulded Dimensions: Length **424.9** Breadth **56.0** Depth **31.25**
Moulded displacement at moulded draught = 85 per cent. of moulded depth **13295** tons
Coefficient of fineness for use with Tables **.736**

Port of Survey **GLASGOW**
Date of Survey **19th MARCH 1932.**
Name of Surveyor **A. Morris.
and W. H. Hyl.**
Particulars of Classification **+100A1
WITH FREEBOARD.**

Depth for Freeboard (D) Moulded depth ... 31.25 Stringer plate04 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 31.29	Depth correction (a) Where D is greater than Table depth (D-Table depth) R = $(31.29 - 28.33) \times 3.0 = +8.88$ (b) Where D is less than Table depth (if allowed) (Table depth-D) R = If restricted by superstructures.	Round of Beam correction Moulded Breadth (B) = 56.0 Standard Round of Beam = $\frac{B \times 12}{50} = 13.44$ Ship's Round of Beam = 13.2 Difference = .06 Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.06}{4} \left(1 - \frac{.993}{1} \right) = .007$
--	--	--

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	18.25	18.30	4.75	✓	18.30
" overhang ...	4.00	2.00			2.00
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	398.50	398.60	4.75	✓	398.60
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	4.00	3.00	2.00		3.00
" forward ...					
Total ...	424.90	421.90			421.90

Standard Height of Superstructure **7'-6"**
R.Q.D. **✓**
Deduction for complete superstructure **42.00**
Percentage covered $\frac{S}{L} = 100$
" $\frac{S_1}{L} = 99.3$
" $\frac{E}{L} = 99.3$
Percentage from Table, Line A. **99.14**
(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) **C.S.S.**
Deduction = $42.0 \times 99.14 = -41.64$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.49	1		52.49	52.0	52.0	1		55.00
$\frac{1}{4}$ L from A.P. ...	23.36	4		93.44	21.5	21.33	4		97.32
$\frac{2}{4}$ L " ...	5.77	2		11.54	5.0	5.33	2		12.10
Amidships ...	-	4		-	-	-	4		-
$\frac{3}{4}$ L from F.P. ...	11.55	2		23.10	10.5	11.25	2		23.54
$\frac{1}{4}$ L " ...	46.72	4		186.88	45.0	45.02	4		190.44
F.P. ...	104.98	1		104.98	104.0	107.00	1		107.00
Total ...				472.43					485.40

Mean actual sheer aft = **2.25**
Mean standard sheer aft = **2.25**
Mean actual sheer forward = **2.25**
Mean standard sheer forward = **2.25**
Length of enclosed superstructure forward of amidships = **C.S.S.**
" aft of " = **C.S.S.**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{12.97}{18} \left(\frac{.75 - .50}{.25} \right) = -.18$
If limited on account of midship superstructure. **C.S.S.**
If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. **✓**

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 31.29 Summer freeboard = 4.15 Moulded draught (d) = 27.14 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.78 = 6.75 Addition for Winter North Atlantic Freeboard (if required) = ✓	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 13728$ Tons per inch immersion at summer load water line T = 47.82 Deduction = $\frac{\Delta}{40 T}$ inches = 7.17 = 7.25	TABULAR FREEBOARD corrected for Fresh Deck (if required) Correction for coefficient $\frac{736 + .68}{1.36} = \frac{1.416}{1.36}$ <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td>8.88</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures ...</td> <td>-</td> <td>41.64</td> </tr> <tr> <td>Sheer correction ...</td> <td>-</td> <td>.18</td> </tr> <tr> <td>Round of Beam correction ...</td> <td>-</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td>-</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td>-</td> <td>-</td> </tr> <tr> <td>Summer Freeboard =</td> <td>49.64</td> <td>-32.94</td> </tr> </table>		+	-	Depth Correction ...	8.88	-	Deduction for superstructures ...	-	41.64	Sheer correction ...	-	.18	Round of Beam correction ...	-	-	Correction for Thickness of Deck amidships ...	-	-	Other corrections, scantlings, etc. ...	-	-	Summer Freeboard =	49.64	-32.94
	+	-																								
Depth Correction ...	8.88	-																								
Deduction for superstructures ...	-	41.64																								
Sheer correction ...	-	.18																								
Round of Beam correction ...	-	-																								
Correction for Thickness of Deck amidships ...	-	-																								
Other corrections, scantlings, etc. ...	-	-																								
Summer Freeboard =	49.64	-32.94																								

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

Tropical Fresh Water Line above Centre of Disc ...	14"	Tropical Fresh Water Freeboard ...	4'-13.25"
Fresh Water Line " " ...	7.25"	Fresh Water " " ...	2'-11.25"
Tropical Line " " ...	6.25"	Tropical " " ...	3'-6.25"
Winter Line below " " ...	6.25"	Winter " " ...	3'-7.25"
Winter North Atlantic Line " " ...	6.25"	Winter North Atlantic " " ...	4'-8.25"

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

		SHELTER						FREEBOARD					
		HATCHWAYS ON FREEBOARD						AND SUPERSTRUCTURE DECKS					
Description of Hatchway ...		1	2	3	4	5	6	1	2	4	5	6	3
Dimensions of Hatchway ...		2' 4" x 18' 0"	3' 0" x 18' 0"	1 1/2' 0" x 18' 0"	1 1/2' 0" x 18' 0"	3' 0" x 18' 0"	22' 0" x 18' 0"	2' 4" x 18' 0"	3' 0" x 18' 0"	1 1/2' 0" x 18' 0"	3' 0" x 18' 0"	3' 0" x 18' 0"	3' 0" x 18' 0"
COAMINGS	Height above Deck ...	30"	30"	24"	30"	30"	30"	9"	9"	9"	9"	9"	9"
	Thickness { Sides ...	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Thickness { Ends ...	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Stiffeners ...	7" BA	4" BA	4" BA	4" BA	4" BA	4" BA	4" BA	4" BA	4" BA	4" BA	4" BA	4" BA
	Brackets, Stays ...	2	2	NONE	NONE	3	2						
HATCH BEAMS	Number ...	4	6	2	2	6	4	4	6	2	6	4	
	Spacing ...	4' 2 1/2"	4' 3 1/2"	4' 8"	4' 8"	4' 4"	4' 5"	4' 2 1/2"	4' 3 1/2"	4' 8"	4' 4"	4' 5"	4' 8"
	Scantling and Sketch ...	15 x 36	15 x 36	15 x 36	15 x 36	15 x 36	15 x 36	15 x 36	15 x 36	15 x 36	15 x 36	15 x 36	15 x 36
		4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4	4 x 3 x 4 1/4
	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"	3 1/2"	3 1/2"	3 1/2"
FORE AND AFTERS	Number ...												
	Spacing ...												
	Unsupported Lengths ...												
	Scantling* and Sketch ...												
	Bearing Surface ...												
HATCH COVERS	Material ...					W.P.							
	Thickness ...					2 1/2"							
	How fitted ...					F&A							
	Bearing Surface ...					3"							
Spacing of Cleats ...						24"							
Number of Tarpaulins ...						2							

*Are wood fore and afters steel shod at all bearing surfaces? ☒

Are battens and wedges efficient and in good condition? **YES**

Are tarpaulins in good condition and in accordance with rule requirements? **YES**

Are lashings provided in accordance with rule requirements? **YES**

Loungie opening closed by efficient temporary covers

Particulars of fiddley, funnel and ventilator coamings:— *STOKEHOLD GRATINGS COVERED BY STRONG STEEL HINGED COVERS.*

FIDDLER & FUNNEL & VENTILATORS IN EFFICIENT CONDITION. ✓ ENGINE SKYLIGHT OF STEEL STRONGLY CONSTRUCTED. ✓

BUNKER MATCH ON BOAT DECK TO SADDLE BACK SHOOT:- DIMS 14'-0" x 4'-0", 1 WED 11-6 x 3-0, 4 ANG. 3-3 x 1-2, BEARING SURFACE 3 1/2"
2 1/2" W.P COVERS LAID FTA, BEARING SURFACE 3" ✓

Particulars of Flush Bunker Scuttles:— *NONE* ✓

Particulars of Flush Bunker Scuttles:— NONE ✓
SMALL HATCHES ON FREEBOARD OR ADREAST CASING:— 2 PORT & 2 STAR^{BD} 6'-3" x 3'-0" WITH 9" O.A. COAMINGS. ✓
 2½" W.P. COVERS, 3" BEARING SURFACE. COVERS FITTED ATWARTSHIP. GLITTER ROUND HATCHWAYS SUITABLE FOR
 BATTENING DOWN, 2 TARPAILINS FITTED. ✓
TWO SMALL HATCH ON SHELTER DECK TO STORE. 2'-3" x 1'-8", 3" ANGLE COAMING, 2½" W.P. COVERS, 2½" BEARING SURFACE, NO BATTENING
 ARRANGEMENTS. (ONE IN STEERING HOUSE & ONE IN FILE TO F.P. SPACES). ✓

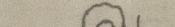
Particulars of Companionways:— *NONE.* ✓

SKYLIGHT ON F'CLE OK. TO CREWS QUARTERS:- STEEL SKYLIGHT 6'-0" x 2'-6" STRONGLY CONSTRUCTED. ✓

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

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—									
2 VENTS ON FILE DK	9" DIA.	36x32 CORR.	TO FILE T.O.	8 VENTS ON SUPERS ² DK	24" DIA.	36x40 CORR.	TO HOLOS.	ALL VENTS ON TOP OF DECK	
4 " " "	10" "	36x32 " "	" " "	2 " " "	18" "	33x40 " "	" OBER TANK.	HOUSES ON SUPERS ² DECK	
4 " " "	7" "	36x32 " "	" " "	1 " " "	10" "	36x34 " "	" TUNNEL.	IN EFFICIENT CONDITION. ✓	
2 " " "	24" "	36x40 " "	" " "	1 " " "	6" "	36x30 " "	" SUPER T.O. AFT.		
				6 O.BST VENTS	24" "		" HOLOS.		

ALL VENTS CONSTRUCTED IN ACCORDANCE WITH RULES & COAMINGS CLOSED WITH WOOD PLUGS & CANVAS COVERS. ✓

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: — 1-5" OVERFLOW FROM FORE PEAK LEO OVERBOARD ABOVE SHELTER DK. ✓
 WITH STORM VALVE ON SHIP'S SIDE. ✓ 1-15" AIR PIPE FROM FORE PEAK LEO FROM BEND OF ABOVE OVERFLOW THRO' SHIP'S SIDE UNDER PILE DK (OPEN ENDED). ✓
 2 AIR PIPES ON SHELTER DK 3/4" DIAM LEO THRO' CREW SPACE TO FLE B/D WHERE HEIGHT IS 27" FROM D.B. ✓ provided with wood plugs.
 10 " " " " 30" HIGH x 5" DIA. FITTED WITH TIROS VALVES, FROM D.B. ✓
 2 " " " " 30" " x 8 1/2" " " " D.B. ✓
 2 C.I.S.N. AIR PIPES ON SHELTER DK 27" HIGH x 6" DIA FITTED WITH CANVAS COVER FROM SETTLING TANK. } →  Height
 1 C.I.S.N. " " " " 14" " x 4" " " CANVAS " " A. PEAK ✓
 1 C.I. " " " " 22" " x 4" " " " SCREW CAP. ✓

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Gangway Cargo and Coaling Ports:—

2 W.T COALING DOORS (PIS)	2'9" x 2'3"	IN SHELTER T.D. SPACE AOREAST MACHY. CASING,	STRONGLY CONSTRUCTED.
1 W.T CARGO " (PIS)	6'0" x 4'0"	" " " " " "	" " " " " "

Particulars of Scuppers and Sanitary Discharge Pipes —
2-4" DIA. PIPE SCUPPERS ON FREEBOARD OK FROM TONNAGE WELL (OPEN ENDED) ✓
2-1 1/2" — " SHELTER OK FROM CREW'S LANY LED OVER BOARD JUST BELOW SHELTER OK (OPEN ENDED). ✓
8-SCUPPERS, COLINSON TYPE, ON FREE BOARD OK FROM SHELTER T.O. CLOSED AT INNER END WITH BOLTED PLATES 1 CEMENT. ✓
5-DISCHARGES FROM LANY'S ABOVE SHELTER OK LED THRO' SHIP'S SIDE BELOW FREEBOARD OK. STORMVALVES FITTED AT SHIP'S SIDE. ✓

Particulars of Side Scuttles:
SIDE SCUTTLES TO CREW SPACE IN FILE T.O. FITTED WITH HINGED DEADLIGHTS & STRONGLY CONSTRUCTED. ✓

Particulars of Guard Rails:—
FILE DECK:— RAILS 3'3" HIGH, 3 RAILS, STANCHIONS 5'-0" APART. ✓
SHELTER DECK:— BULWARK 3'6" HIGH EFFICIENTLY CONSTRUCTED & SUPPORTED EXCEPT IN WAY OF HATCHES WHERE RAILS 3'6" HIGH FITTED, WITH 3 RAILS & STANCHIONS SPACED 4'-9" APART. ✓

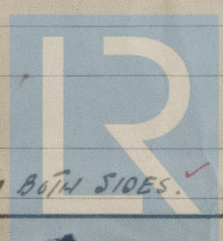
Particulars of Gangways, Lifelines, etc.:—
STORM RAIL FITTED FOR FULL LENGTH OF MIDSHIP DECK HOUSE. 3'3" HIGH. ✓

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
TONNAGE After Well	8'-0" -	4'-9" -	2'-4" x 1'-9" -	1 -		
Forward Well						
State position of each freeing port } TONNAGE (F. and A. position and height above deck edge) } After Well:— HEIGHT ABOVE DECK EDGE = 4", F.A. POSITION IN SPACE NEXT FORW. 8/11/0 Forward Well:— State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— HINGED STEEL SHUTTERS, NO BARS OR RAILS. 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
TONNAGE Bulkheads	36 -	32 -	4-8 x H2 L -	36" -	NONE -	5'-0" x 4'-0" -	18" -	4'-9" -
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead		30 -	3-2 1/2 x 34 -	4'-6" -	NONE -	6'-0" x 2'-0" -	12" -	8'-0" -
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouse on Main Deck Ships ...	34 -	26 -	5-3 x 38 L -	4'-8" -	ALL AT TOP -	NONE -	NONE -	4'-9" -
Deckhouse on Main Deck Ships ...	30 -	25 -	28" -	4-3 x 36 -	ALL TO DECKS -	4'-10" x 2'-0" -	18" -	8'-0" -

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
TONNAGE Bulkheads	RIVETED CHANNELS WITH STORM BOARDS FOR FULL HEIGHT. ✓
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	3-STEEL DOORS 5'-0" x 2'-0" & 1-1/4" TEAK DOOR 6'-0" x 2'-0" IN RECESS AT C, 18" SILLS DESPAINELY BOTH SIDES. ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	NO OPENINGS. ✓
Deckhouse on Main Deck Ships ...	2" TEAK DOORS, 4'-10" x 2'-0", 18" SILLS, OPERATED FROM BOTH SIDES. ✓

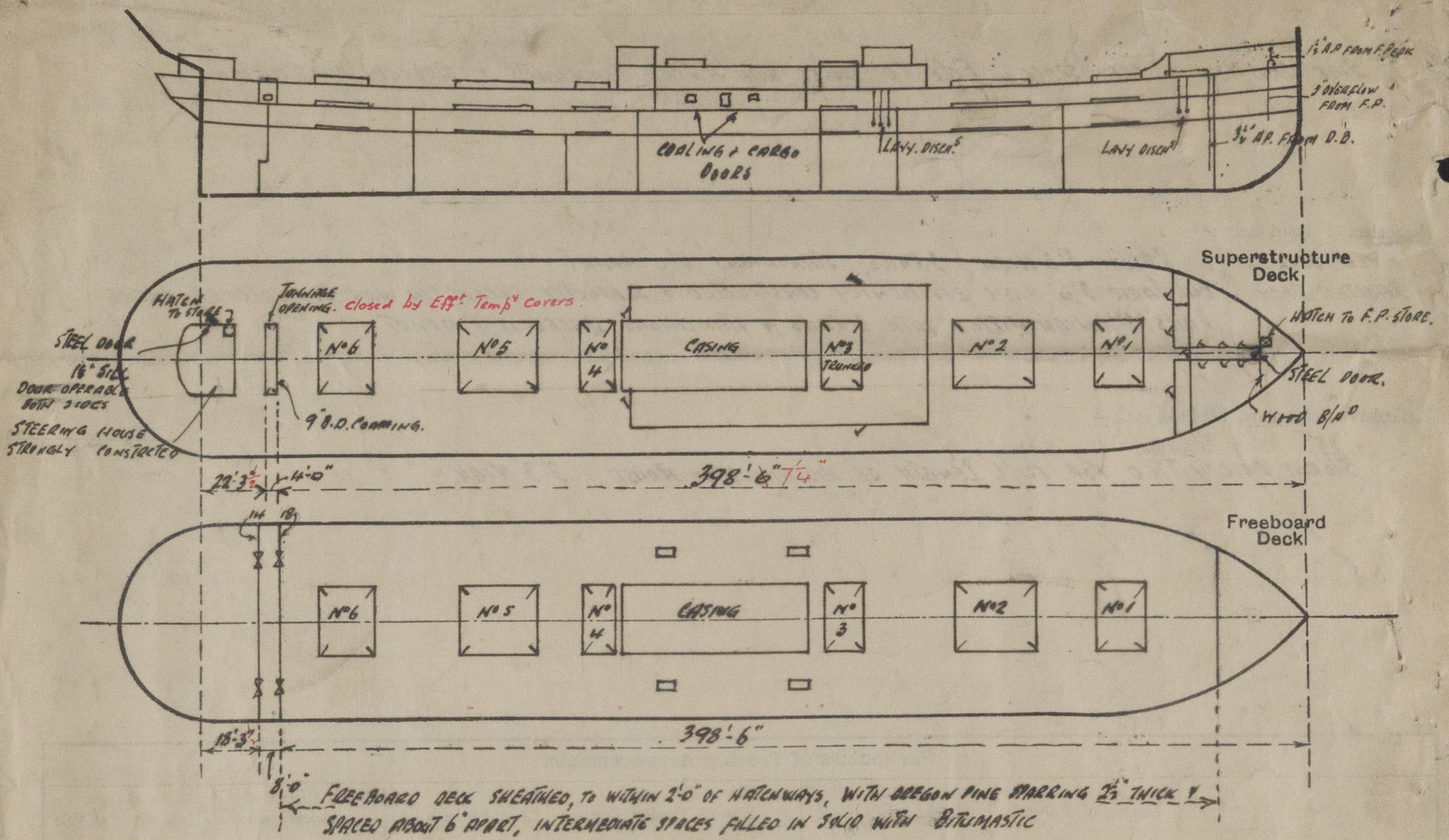
RETAI



404-017(212)

Humber Iron

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 shewn on the following sketches:—



State any special features in the construction of the ship:—

Builder's name and yard number *ARMSTRONG WHITWORTH & CO. LTD. NEWCASTLE. N° 1000.*

Names of sister ships

Owners *INTERNATIONAL POWER & PAPER CO. OF N.F.L. LTD.*

Fee £ *13* : *12* : *0* Received by me *[Signature]*



© 2020
Lloyd's Register
Foundation