Rpt. C.11.

# Lloyd's Register of Shipping.

Index. No. 29625.
(For London Office only.)

# SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship~~, ~~Tanker~~

having POOP, BRIDGE, & FORECASTLE.

(Type of Superstructures.)

Port of Survey OSAKA.

Date of Survey 28TH JANUARY 1937.

Name of Surveyor A.E.O. Munro.

Particulars of Classification ✠ 100 A1.

| Ship's Name | Nationality and Port of Registry | Official Number | Gross Tonnage | Date of Build |
|---|---|---|---|---|
| "TRAN." Ex "CANADIAN LEADER". | CHINESE. TSINGTAO. | | 5492. | 1921. 5. |

Moulded Dimensions: Length 399·41 Breadth 52·16 Depth 31·19

Moulded displacement at moulded draught = 85 per cent. of moulded depth 12319 tons

Coefficient of fineness for use with Tables ·78 estimated

## Depth for Freeboard (D)

| | |
|---|---|
| Moulded depth ... ... ... ... | 31·19 |
| Stringer plate ... ... ... ... | ·04 |
| Sheathing on exposed deck $T\left(\frac{L-S}{L}\right)$ = | ✓ |
| Depth for Freeboard (D) = | 31·23 |

## Depth correction

(a) Where D is greater than Table depth (D—Table depth) R = (31·23 − 26·65) 3 = 13·74"
4·58

(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) | = | 52·16' |
| Standard Round of Beam = $\frac{B \times 12}{50}$ | = | 12·52" |
| Ship's Round of Beam | = | 13" |
| Difference excess | = | ·48" |
| Restricted to | | |
| Correction = $\frac{\text{Diff}^e}{4} \times \left(1-\frac{S_1}{L}\right)$ | = | $\frac{·48}{4}$ × ·4494 = − ·06" |

## DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length ($S_1$) | Height | Height Correction | Effective Length (E) |
|---|---|---|---|---|---|
| Poop enclosed ... ... | 49·67 | 49·67 | 4·96 | ✓ | 49·76 |
| „ overhang ... ... | | | | | |
| R.Q.D. enclosed ... | | | | | |
| „ overhang ... | | | | | |
| Bridge enclosed... ... | 112·49 | 112·49 | 4·96 | ✓ | 112·49 |
| „ overhang aft ... | 4·83 | 3·62 | " | ✓ | 3·62 |
| „ overhang forward | 2·64 | 1·33 | " | ✓ | 1·33 |
| F'cle ~~enclosed~~ open.... | 41·33 | 40·65 | 4·96 | ✓ | 40·65 |
| „ overhang ... ... | | | | | |
| Trunk aft ... ... | | | | | |
| „ forward ... ... | | | | | |
| Tonnage opening aft ... | | | | | |
| „ „ forward | | | | | |
| Total ... ... | 211·29 | 208·06 | | | 208·06 |

Standard Height of Superstructure 4·50

„ „ R.Q.D. ✓

Deduction for complete superstructure 41·98

Percentage covered $\frac{S}{L}$ = 52·86

„ „ $\frac{S_1}{L}$ = 52·06

„ „ $\frac{E}{L}$ = 52·06

Percentage from Table, Line A. ✓

(corrected for absence of forecastle (if required)) ✓

Percentage from Table, Line B. 38·06

~~(corrected for absence of forecastle (if required))~~

Interpolation for bridge less than ·2L (if required) ✓

Deduction = 41·98 × ·3806 = 15·98"

## SHEER CORRECTION.

| Station | Standard Ordinate | S M | Product | Actual Ordinate | Effective Ordinate | S M | Product |
|---|---|---|---|---|---|---|---|
| A.P. ... ... | 49·94 | 1 | 49·94 | 66·00 | 66·00 | 1 | 66·00 |
| $\frac{1}{6}$L from A.P. ... | 22·24 | 4 | 88·96 | 25·00 | 25·00 | 4 | 100·00 |
| $\frac{2}{6}$L „ ... | 5·50 | 2 | 11·00 | 6·50 | 6·50 | 2 | 13·00 |
| Amidships ... | — | 4 | — | — | — | 4 | — |
| $\frac{2}{6}$L from F.P. ... | 10·99 | 2 | 21·98 | 15·25 | 15·25 | 2 | 30·50 |
| $\frac{1}{6}$L „ ... | 44·47 | 4 | 177·88 | 54·80 | 54·80 | 4 | 219·20 |
| F.P. ... ... | 99·94 | 1 | 99·94 | 125·50 | 125·50 | 1 | 125·50 |
| Total ... | | | 449·73 | | | | 554·20 |

Mean actual sheer aft / Mean standard sheer aft = Excess.

Mean actual sheer forward / Mean standard sheer forward = Excess

Length of enclosed superstructure / L forward of amidships = > ·1L.

„ „ „ aft of „ = > ·1L.

Correction = $\frac{\text{Difference between sums of products}}{18}\left(·75-\frac{S}{2L}\right) = \frac{104·47}{18}(·75 - ·2643) = -2·82"$ ·4857

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

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

| | Ft. |
|---|---|
| Depth to Freeboard Deck = | 31·23 |
| Summer freeboard = | 5·96 |
| Moulded draught (d) = | 25·27 |

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6·32 = 6¼"

Addition for Winter North Atlantic Freeboard (if required = ✓

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

△ =

Tons per inch immersion at summer load water line

T =

Deduction = $\frac{\triangle}{40\,T}$ inches = 6¾"

## TABULAR FREEBOARD ~~corrected for Flush Deck (if required)~~ 41·41

Correction for coefficient $\frac{·78+·68}{1·36} = \frac{1·46}{1·36}$ 46·66

| | + | − |
|---|---|---|
| Depth Correction ... ... ... ... ... | 13·74 | — |
| Deduction for superstructures ... ... ... | — | 15·98 |
| Sheer correction ... ... ... ... ... | — | 2·82 |
| Round of Beam correction ... ... ... ... | — | ·06 |
| Correction for Thickness of Deck amidships ... | — | — |
| Other corrections, scantlings, etc. ... ... ... | — | — |
| | 13·74 | 18·86 |

− 5·12

Summer Freeboard = 41·54

## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck :— 5'-11½"

| | | | |
|---|---|---|---|
| Tropical Fresh Water Line above Centre of Disc ... ... | 13" | Tropical Fresh Water Freeboard ... ... | 4'-10½" |
| Fresh Water Line „ „ ... ... | 6¾" | Fresh Water „ ... ... | 5' 4¾" |
| Tropical Line „ „ ... ... | 6¼" | Tropical „ ... ... | 5' 5¼" |
| Winter Line below „ ... ... | 6¼" | Winter „ ... ... | 6'-5¾" |
| ~~Winter North Atlantic Line~~ „ „ ... ... | ✓ | ~~Winter North Atlantic~~ „ ... ... | ✓ |



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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

## HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

| Description of Hatchway | No 1. | No 2. | No 3. | No 4 | No 5. | Fore Peak Store. | Bunker Sides | Trimming Hatches | No 3. | Bunker Sides | Poop Store | Saddle Hatch. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Upper Deck. | | | | | | | | Bridge Deck. | | | |
| Dimensions of Hatchway | 30'-6" x 21'-0" | 32'-6" x 21'-0" | 18'-1½" x 17'-11½" | 30'-6" x 21'-0" | 30'-6" x 21'-0" | 2'-2¾" x 3'-1" | 8'-5" x 4'-0" (2). 5'-1" x 4'-0" (2) | 2'-6" x 1'-11" (4). | 18'-1½" x 17'-11½" | 8'-3" x 5'-0" (2) | 3'-1" 2'-5" | 18'-7" 4'-5½" |
| COAMINGS — Height above Deck | 2'-9" | 2'-9" | 10" B.R. | 2'-9" | 2'-9" | 2'-0" | 10½" B.R. | 9½" B.R. | 2'-6" | 1'-6½" | 1'-6" | 10" |
| COAMINGS — Thickness — Sides | 7/16" | 7/16" | ½" | 7/16" | 7/16" | ⅜" | ½" | ½" | 7/16" | 7/16" | ⅜" | ⅜" |
| COAMINGS — Thickness — Ends | 7/16" | 7/16" | ½" | 7/16" | 7/16" | ⅜" | ½" | ½" | 7/16" | 7/16" | ⅜" | ⅜" |
| COAMINGS — Stiffeners | 8"x½" B.B. | 8"x½" B.B. | — | 8"x½" B.B. | 8"x½" B.B. | — | — | — | 8"x½" B.B. | — | — | — |
| COAMINGS — Brackets, Stays | 2. | 2. | — | 2. | 2. | — | — | — | 1. | — | — | — |
| HATCH BEAMS — Number | 5. | 6. | 3. | 6. | 5. | — | — | — | 3 | — | — | — |
| HATCH BEAMS — Spacing | 60". | 56". | 54". | 60". | 60". | — | — | — | 54" | — | — | — |
| HATCH BEAMS — Scantling and Sketch | 4"x8"x½" "R" 13". ⅞" ⅜" B | "R" | "B" Placed Fore & Aft | "R" | "R" | — | — | — | "B" Placed Fore & Aft | — | — | — |
| HATCH BEAMS — Bearing Surface | 3¼". | 3¼". | 3". | 3½". | 3½". | — | — | — | 3" | — | — | — |
| FORE AND AFTERS — Number | | | | | | | | | | | | |
| FORE AND AFTERS — Spacing | | | | | | | | | | | | |
| FORE AND AFTERS — Unsupported Lengths | | | | | | | | | | | | |
| FORE AND AFTERS — Scantling* and Sketch | | | | | | | | | | | | |
| FORE AND AFTERS — Bearing Surface | | | | | | | | | | | | |
| HATCH COVERS — Material | Wood. | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Wood |
| HATCH COVERS — Thickness | 2¾". | 2¾". | 2¾". | 2¾". | 2¾". | 2¾" | 2¾" | 2¾" | 2¾" | 2¾". | 2¾" | 2¾" |
| HATCH COVERS — How fitted | F & A | F & A | Thwart. | F & A | F & A. | | | | Thwart. | | | |
| HATCH COVERS — Bearing Surface | 4" | 4" | 3" | 4" | 4" | | | | 3" | | | |
| Spacing of Cleats | 23" | 23" | 23" | 23" | 23" | 23" | 23" | 23" | 23" | 23" | 23" | 23" |
| Number of Tarpaulins | 3. | 3. | 1. | 3. | 3. | 1. | 1. | 1. | 3. | 3. | 2. | 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? ✓
Are lashings provided in accordance with rule requirements? YES. ✓

Particulars of fiddley, funnel and ventilator coamings :— STOKEHOLD GRATINGS COVERED BY STRONG STEEL HINGED COVERS. FIDDLEY AND FUNNEL VENTILATORS ARE IN EFFICIENT CONDITION. ENGINE ROOM SKYLIGHT OF STEEL AND STRONGLY CONSTRUCTED. ✓

Particulars of Flush Bunker Scuttles :—

NONE. ✓

Particulars of Companionways :— ONE STEEL COMPANIONWAY ON POOP DECK FACING AFT. 4'-10" x 2'-2" x 6'-3" HIGH HINGED STEEL DOOR OPERATED FROM BOTH SIDES. SILL 10". ✓

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

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2 | Vents on Forecastle Deck. | 18" | Diam. | Coaming. | 36" x ·34 | ✓ | ALL VENTILATORS CONSTRUCTED IN ACCORDANCE WITH RULES. COAMINGS CLOSED WITH WOOD PLUGS AND CANVASS COVERS. ✓ |
| 1 | " " " | 9" | " | " | 42" x ·34 | ✓ | |
| 3 | " " " | 6¾" | " | " | | | |
| 3 | " " " | 6" | " | " | 24" x ·3 | ✓ | |
| 3 | " " " | 3½" | " | " | | | |
| 4 | " " Fore Well | 18" | " | " | 36" x ·34 | ✓ | |
| 2 | Vents on Bridge Deck. | 18" | Diam. | Coaming. | 30" x ·34 | ✓ | |
| 2 | " " " | 12" | " | " | 30" x ·34 | ✓ | |
| 4 | " " Aft Well | 18" | " | " | 36" x ·34 | ✓ | |
| 2 | " " Poop | 18" | " | " | 36" x ·34 | ✓ | |
| 4 | " " " | 12" | " | " | 30" x ·34 | ✓ | |
| 6 | " " " | 9" | " | " | 30" x ·3 | ✓ | |

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

| | | | |
|---|---|---|---|
| Fore Deck under Forecastle :- | 3 – 3" | Diam x 12" | High. ✓ Closed by Wood Plug. ✓ |
| Fore Well Deck :- | 2 – 3½" | " x 36" | High. ✓ |
| Bridge Deck :- | 6 – 3" | " x 18" | High. ✓ |
| Aft Well Deck :- | 2 – 3½" | " x 36" | High. ✓ |
| Poop Deck | 1 – 3½" | " x 20" | High. ✓ |

Particulars of Gangway Cargo and Coaling Ports :—

NONE. ✓

Particulars of Scuppers and Sanitary Discharge Pipes — NO DISCHARGES FROM SPACES BELOW FREEBOARD DECK. ✓

Particulars of Side Scuttles : NO SCUTTLES FITTED BELOW FREEBOARD DECK. ✓ 9" SIDE SCUTTLES FITTED IN FORECASTLE, BRIDGE & POOP WITH PERMANENTLY ATTACHED HINGED DEADLIGHTS OF SUBSTANTIAL CONSTRUCTION. ✓

Particulars of Guard Rails :— GUARD RAILS FITTED ON POOP, BRIDGE AND FORECASTLE DECKS. 39" HIGH SUPPORTED BY STANCHIONS ABOUT 5'-0" APART. OTHER EXPOSED PLACES BULWARKS ARE FITTED. EFFICIENTLY CONSTRUCTED & SUPPORTED. ✓

Particulars of Gangways, Lifelines, etc. :— LIFE LINES FITTED ON PORT SIDE ONLY IN FORE & AFTER WELL DECKS. ✓ 2 STANCHIONS IN RIVETED SOCKETS TO HATCH HORIZONTAL STIFFENER ✓ EYE BOLTS FITTED TO BULKHEAD AT EACH END. ✓

## 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 | 99'-10" | 3'-6". | 4'-4" x 1'-4". | 4. | 23 ☐ft. ✓ | 19.94 ☐ft. |
| Forward Well | 100'-0" | 3'-6". | 4'-4" x 1'-4". | 4. | 23 ☐ft. ✓ | 20.00 ☐ft. |

State position of each freeing port (F. and A. position and height above deck edge) — After Well :— From Bridge ← 10'-6" → ☐ ← 20'-9" → ☐ ← 18'-9" → ☐ ← 19'-10" → ☐ ← 12'-8" → 14" above deck edge ✓
Forward Well :— " " ← 12'-6" → ☐ ← 18'-9" → ☐ ← 19'-9" → ☐ ← 19'-9" → ☐ ← 11'-9" →

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— TWO :- 1" DIA HORIZONTAL RAILS. NO SHUTTERS. ✓

Additional area where sheer is less than standard.

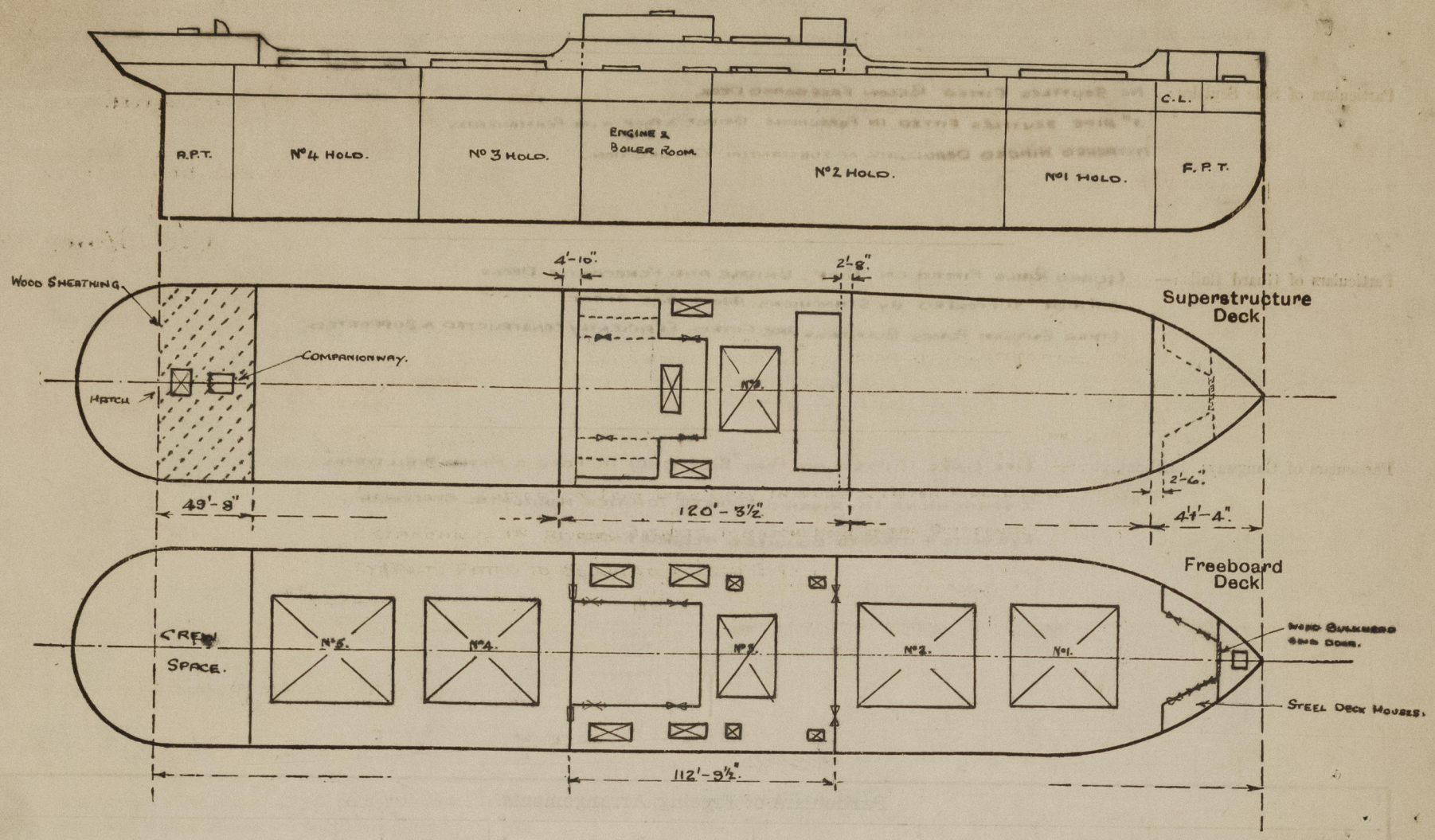
## Particulars of Superstructures, Trunks, Casings, Deckhouses.

| | Coaming | Plating | Stiffeners | Spacing | End Attachments of Stiffeners | Size of Openings | Height of Sills | Height of Casings |
|---|---|---|---|---|---|---|---|---|
| Poop Bulkhead | ✓ ·44 | ·40 | 6"x3"x·38" L | 30" | Full length. Top & Bottom. | ✓ | ✓ | ✓ |
| Raised Quarter Deck Bulkhead | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Bridge, After Bulkhead | 7/16". | ⅜". ✓ | 4x3x7/16" L. ✓ | 30". ✓ | | 5'-0" x 3'-6". ✓ | 18". ✓ | 7'-11½". ✓ |
| Bridge, Forward Bulkhead | ½". | 7/16". ✓ | 9"x3"x½" B.B. ✓ | 31". ✓ | Brackets. Top & Bottom. ✓ | 5'-0" x 3'-6" ✓ | 18". ✓ | 7'-11½". ✓ |
| Forecastle Bulkhead | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Trunk, Aft | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Trunk, Forward | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Exposed Machinery Casings on Superstructure Decks | 7/16". | ⅜". ✓ | 3½"x3"x⅜" L ✓ | 28". ✓ | Bracket at top. | 5'-0" x 2'-0" ✓ | 18". - | 7'-11½". ✓ |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 7/16". | ⅜". ✓ | 3½"x3"x⅜" L ✓ | 28". ✓ | Bracket at top. | 5'-0" x 2'-0" ✓ | 18". ✓ | 7'-11½". ✓ |
| Deckhouses on Flush Deck Ships | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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

| | |
|---|---|
| Poop Bulkhead | ~~NONE~~ No openings |
| Raised Quarter Deck Bulkhead | ✓. |
| Bridge, After Bulkhead | STORM BOARDS IN RIVETED CHANNELS PORT & STAR SIDES. FULL HEIGHT. ✓ |
| Bridge, Forward Bulkhead | TWO WATER-TIGHT HINGED STEEL DOORS MANIPULATED OUTSIDE ONLY. ✓ |
| Forecastle Bulkhead | NONE (SEE SKETCH.) ✓ |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks | ✓ |
| Exposed Machinery Casings on Superstructure Decks | 2 STEEL DOORS TO ENGINE ROOM. 2. STEEL DOORS TO STOKE HOLD } MANIPULATED BOTH SIDES. ✓ |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 2 STEEL DOORS TO ENGINE ROOM. 2. STEEL DOORS TO STOKE HOLD. } MANIPULATED INSIDE ONLY. ✓ |
| Deckhouses on Flush Deck Ships | ✓ |

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 :—

THIS VESSEL HAS BEEN SURVEYED IN DRY DOCK AND A COMPLETE SPECIAL SURVEY 2ND NO1 NOW HELD.

THE PRESENT INTERNATIONAL LOAD LINE CERTIFICATE ISSUED UNDER THE AUTHORITY OF THE GOVERNMENT OF THE DOMINION OF CANADA WAS EXAMINED, AND THE FOLLOWING PARTICULARS ARE NOTED :—

FORM LL.2 ISSUED BY THE DEPARTMENT OF MARINE CANADA.

"CANADIAN LEADER" OFFICIAL No 141833.

PORT OF REGISTRY. MONTREAL QUEBEC.

GROSS TONNAGE. 5492.

| | FREEBOARD FROM DECK LINE. | LOAD LINE. |
|---|---|---|
| TROPICAL. | 5'— 5¼". | 6¼ ABOVE SUMMER. |
| SUMMER. | 5'— 11½". | " |
| WINTER. | 6'— 5¾". | 6¼" BELOW. SUMMER. |

ALLOWANCE FOR FRESH WATER FOR ALL FREEBOARDS. 6¾".

THE UPPER EDGE OF THE DECK LINE FROM WHICH THESE FREEBOARDS ARE MEASURED IS NIL INCHES ABOVE THE STEEL UPPER DECK AT SIDE.

THIS CERTIFICATE REMAINS IN FORCE UNTILL 3RD OCTOBER 1936. ISSUED AT OTTAWA ON 15TH MAY 1933.

BRIDGE, FORE END:- CLASS 1. CLOSING APPLIANCE WT. STEEL HINGED DOORS.

BRIDGE, AFTER END:- CLASS 2. CLOSING APPLIANCE. CHANNELS AND SHIFTING BOARDS.

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Builder's name and yard number

Names of sister ships

Owners

Fee £ Yen 400 per 1000 Received by me

NOTE:- OWNERS AT THIS TIME REQUESTED ASSIGNMENT OF "TIMBER FREEBOARDS". THE VESSEL BEING URGENTLY REQUIRED AT THIS TIME, TIME DID NOT PERMIT OF DEALING WITH BALLAST TANKS WITHIN HALF LENGTH, ALSO THE FITTING OF LASHING RINGS AND STANCHION SOCKETS. IT IS STATED THAT THIS WILL BE DONE ON VESSELS RETURN IN APRIL 1937. IN THE CIRCUMSTANCES PLEASE CABLE TIMBER FREEBOARDS TO THIS OFFICE.

NOTE:- IN ORDER TO ALLOW THE VESSEL TO PROCEED A "PROVISIONAL FREEBOARD CERTIFICATE" HAS BEEN ISSUED. COPY ATTACHED HERETO TOGETHER WITH FREEBOARD VERIFICATION FORM.

R. E. Munro.