

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

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

having POOP, BRIDGE & FORECASTLE

(Type of Superstructures.)

Port of Survey AVONMOUTH

Date of Survey 4th & 8th OCTOBER 1947

Name of Surveyor A. E. Fitchard

Particulars of Classification CLASSIFICATION
CONTEMPLATED

Ship's Name <u>"TOMOGERUS"</u> <u>EX "SWAN ISLAND"</u>	Nationality and Port of Registry <u>BRITISH</u> <u>LONDON</u>	Official Number <u>181747</u>	Gross Tonnage <u>10670.53</u>	Date of Build <u>1944</u>
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Moulded Dimensions: Length 503'-0" Breadth 68'-0" Depth 39'-3"

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

Coefficient of fineness for use with Tables .745

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>39'-3"</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(39.33 - 33.53) 3 = + 17.40"</u> <u>5.80</u>	Moulded Breadth (B) <u>68.00'</u>
Stringer plate <u>.94"</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>16.32"</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		Ship's Round of Beam <u>equiv.</u> = <u>15.81"</u>
Depth for Freeboard (D) = <u>39.33</u>	If restricted by superstructures <input checked="" type="checkbox"/>	Difference <u>.51"</u>
		Restricted to <input checked="" type="checkbox"/>
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <u>.51 + .599 = +.08"</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poep enclosed <u>equiv.</u> ...	<u>109.67</u>	<u>109.67</u>	<u>8'-0"</u>	<input checked="" type="checkbox"/>	<u>109.67</u>
" overhang ...	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
R.Q.D. enclosed ...	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
" overhang ...	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
Bridge enclosed. <u>equiv.</u> ...	<u>38.67</u>	<u>38.67</u>	<u>8'-0"</u>	<input checked="" type="checkbox"/>	<u>38.67</u>
" overhang aft ...	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
" overhang forward	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
F'cle enclosed ...	<u>53'-0"</u>	<u>53.00</u>	<u>11'-0"</u>	<input checked="" type="checkbox"/>	<u>53.00</u>
" overhang ...	<u>.75"</u>	<u>.38</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>.38</u>
Trunk aft ...	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
" forward ...	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
Tonnage opening aft ...	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
" " forward	<u>202.09</u>	<u>201.72</u>	<input checked="" type="checkbox"/>		<u>201.72</u>
Total ...	<u>201.72</u>	<u>201.72</u>			<u>201.72</u>

Standard Height of Superstructure 7.5'

" " R.Q.D. ☒

Deduction for complete superstructure 42.00"

Percentage covered $\frac{S}{L} =$ 40.18

" " $\frac{S_1}{L} =$ 40.10

" " $\frac{E}{L} =$ 40.10

Percentage from Table, Line A. Junker 31.10

(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 = 42.00 x .3110 = - 13.06"

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<u>60.30</u>	1	<u>60.30</u>	<u>24</u>	<u>24.0</u>	1	<u>24.0</u>
$\frac{1}{8}$ L from A.P. ...	<u>26.83</u>	4	<u>107.32</u>	<u>4</u>	<u>4.0</u>	4	<u>16.0</u>
$\frac{3}{8}$ L " ...	<u>6.63</u>	2	<u>13.26</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input checked="" type="checkbox"/>
Amidships ...	<input checked="" type="checkbox"/>	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4	<input checked="" type="checkbox"/>
$\frac{5}{8}$ L from F.P. ...	<u>13.27</u>	2	<u>26.54</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	<input checked="" type="checkbox"/>
$\frac{7}{8}$ L " ...	<u>53.67</u>	4	<u>214.68</u>	<u>6</u>	<u>6.0</u>	4	<u>24.0</u>
F.P. ...	<u>120.60</u>	1	<u>120.60</u>	<u>18</u>	<u>18.0</u>	1	<u>18.0</u>
Total ...			<u>542.70</u>				<u>82.0</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{460.7 - 2009}{18} \left(.75 - \frac{2009}{5491} \right) = + 14.05"$

If limited on account of midship superstructure. ☒

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 = 39.33

Summer freeboard = 9.23

Moulded draught (d) = 30.10

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7.52 = 7 $\frac{1}{2}$ "

Addition for Winter North Atlantic Freeboard (if required) = 7.52 + 5.03 = 12.55 = 12 $\frac{1}{2}$ "

Deduction for Fresh Water.

Displacement in salt water at summer load water line $\Delta =$ 21890 tons.

Tons per inch immersion at summer load water line $T =$ 67

Deduction = $\frac{\Delta}{40T}$ inches = 8.17

= 8 $\frac{1}{4}$ "

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.745 + .68}{1.36} = 1.425/1.36$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

88.19"

92.40"

	+	-
Depth Correction ...	<u>17.40</u>	<input checked="" type="checkbox"/>
Deduction for superstructures ...	<u>13.06</u>	<input checked="" type="checkbox"/>
Sheer correction ...	<u>14.05</u>	<input checked="" type="checkbox"/>
Round of Beam correction ...	<u>.08</u>	<input checked="" type="checkbox"/>
Correction for Thickness of Deck amidships ...	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other corrections, scantlings, etc. ...	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>31.53</u>	<u>13.06</u>

Summer Freeboard = 110.87"

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~ Steel/Deck: 9'-2 $\frac{3}{4}$ "

Tropical Fresh Water Line above Centre of Disc ...	<u>15$\frac{3}{4}$"</u>
Fresh Water Line " " ...	<u>8$\frac{1}{4}$"</u>
Tropical Line " " ...	<u>7$\frac{1}{2}$"</u>
Winter Line below " " ...	<u>7$\frac{1}{2}$"</u>
Winter North Atlantic Line " " ...	<u>12$\frac{1}{2}$"</u>

Tropical Fresh Water Freeboard ...	<u>4' ... 11"</u>
Fresh Water " " ...	<u>8' ... 6$\frac{1}{2}$"</u>
Tropical " " ...	<u>8' ... 4$\frac{1}{2}$"</u>
Winter " " ...	<u>9' ... 10$\frac{1}{4}$"</u>
Winter North Atlantic " " ...	<u>10' ... 3$\frac{1}{4}$"</u>

AT PRESENT
CUT IN ON SHIP'S
SIDE & IN
ACCORDANCE WITH
A.B. CERTIFICATE
No. 1-6768

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS								
FREE BOARD DECK.								
Description of Hatchway	FORWARD HOLD	CARGO TANKS	FORE PEAK SPACE IN PEAK SPACE	TO DEEP TANK FOR ²	TO FORE & AFT COFFERS ^{THS}	TO FUEL TANK AFT	TO MAG ^{INE} IN TO'LE SPACE	
Dimensions of Hatchway	11'-3" 14'-9"	48" DIA. 48" DIA.	3'-2" 3'-2"	24 1/2" DIA. 24 1/2" DIA.	24 1/2" DIA. 24 1/2" DIA.	36" DIA. 36" DIA.	2'-8" 2'-8"	
COAMINGS { Height above Deck	30"	30 1/2"	30"	24"	24"	30"	24"	
{ Thickness Sides50"	4/16"	.50"	.50"	.50"	.50"	.50"	
{ Stiffeners	3" FLAT + FRANSED BOTH SIDE & END	✓	3" FLAT +	3" FLAT +	3" FLAT +	✓	✓	
{ Brackets, Stays	✓	✓	✓	✓	✓	✓	✓	
HATCH BEAMS { Number	—	—	—	—	—	—	—	ALL MAIN CARGO
{ Spacing	—	—	—	—	—	—	—	TANK COVERS FITTED
{ Scantling and Sketch	—	—	—	—	—	—	—	WITH ULLAGE HOLES ✓
Bearing Surface	—	—	—	—	—	—	—	
FORE AND AFTERS { Number	—	—	—	—	—	—	—	10" DIA. WITH HINGED
{ Spacing	—	—	—	—	—	—	—	WT COVERS & STRONG
{ Unsupported Lengths	—	—	—	—	—	—	—	BACK FASTENING.
{ Scantling* and Sketch	—	—	—	—	—	—	—	8" ULLAGE HOLE TO FUEL
Bearing Surface	—	—	—	—	—	—	—	TANKS, SIMILAR CLOSING.
HATCH COVERS { Material	Steel plates?	—	—	HINGED STEEL W.T.	—	—	—	
{ Thickness	—	—	—	COVER WITH	—	—	—	
{ How fitted	—	—	—	764 LBS	—	—	—	
{ Bearing Surface	—	—	—	.50 THICK.	—	—	—	
Spacing of Cleats	✓	✓	✓	✓	✓	✓	✓	
Number of Taraulins	✓	✓	✓	✓	✓	✓	✓	

*Are wood fore and afters steel shod at all bearing surfaces? ✓
 Are battens and wedges efficient and in good condition? ✓
 Are tarpaulins in good condition and in accordance with rule requirements? ✓
 Are lashings provided in accordance with rule requirements? ✓

Particulars of fiddley, funnel and ventilator coamings :—

FUNNEL & ENGINE CASING VENTILATOR COAMINGS EFFICIENTLY CONSTRUCTED AND FITTED WITH COWL TURNING GEAR.
ENGINE ROOM SKYLIGHT STRONGLY CONSTRUCTED OF STEEL WITH HINGED FLAPS, ENCLOSED BY STEEL
CASING WITH OPEN TOP. ✓
ENGINE ROOM — 2 OPENINGS (D&S) FITTED WITH HINGED STEEL COVERS. ✓

Particulars of Flush Bunker Scuttles:—

ON POOP DECK (AFT END) TO STERN SPACE, 18" DIA. WITH CHAIN ATTACHMENT.

Particulars of Companionways:—

Particulars of Companionways:—
Pump Rooms:—HINGED STEEL W.T. DOORS (pas Sides, aft Pump Room & ps, For^d Pump Room) MANIPULATE^d BOTH SIDES.

HFT Pump Room: 5'-0" x 2'-2 3/4" x 3/8" x 1/8" sill. FOR^D Pump Room: 5'-0" x 2'-2" x 3/8" x 1/8" sill.

POOP DECKHOUSE: - HINGED STEEL W.T. DOORS (FOR^D, P&S, AFT - 6 IN NUMBER) MANIPULATED BOTH SIDES.

OPENINGS: 5'-0" x 2'-7 1/4" x 18" SILL.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :— To F.O.C. SPACE THRO' F.O.C. 1344. 12" DIA. 30" CORNING, HINGED, W.T. COVER & TOSSELES.
To F.P. LOWER STORE 12" DIA 26" CORNING, MUSH ROOM SCREW DOWN COVER. To F.P. UPPER STORE 12" DIA, 61" CORNING, W.T. HINGED COVER & TOSSELES. *changed?*

FORECASTLE) JK- To F.P. LOWER SIDE, 12 DIA. & COAMING, MUSHROOM COVER.
(FREE BOARD) JK- To F.O.P. HOLD (pas) 15" DIA, 12'6" COAMING, BRACKET TO FO'LE BHK^a, WT HINGE) COVER & Toggles.
 To F.O.P. 2nd PASSAGE hds. 18" DIA 36" COAMING, WT HINGE) COVER & Toggles.

To For^d Pump Room (Roof) pos, 18" dia, 36" casing, w/ HINGED COVER & Toggles.

To Accommodation, (bas) 18' x 13' 0" coming, BRACKET TO GUN PLATFORM COURVRE PLATE, W.T. HINGED STEEL COVER & TOWERS.

BRIDGE DK:- TO STEERING GEAR FLAT (SS) 10" DIA, 33 CORNINGS, WITH PERMANENT, PHENOL RESIN TYPE COATING.
TO BRIDGE SPACE:- (2P, 2S) 12" DIA, 36" " , WITH HINGE), W.T. COVER & TOSSELES.

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

FORECASTLE DECK:- To F.P. TANK, 4" DIA, 36" COAMING WITH GOOSE NECK.

2") 1A, 36" " (pas) " " "

FREEBOARD) DECK:- TO F. & A. COFFER DAMS, 3") 1A, 36" COMING WITH GOOSE NECK (pas)

" FUEL TANK AFT (POS) 6' " , 6'-8' " , " * POOP FRONT. " " " 1 . 2 3/4 " " " (FILLING POS)
 (ALL EFFICIENTLY CLOSED), SCREWED) CAPS & CHAINS

Particulars of Gangway Cargo and Coaling Ports:—

NONE.

Tomogerus.

Particulars of Scuppers and Sanitary Discharge Pipes:—		CREWS' QUARTERS AFT				
PORT SIDE:—	3 - 4" DIA. W.C. DISCHARGES	1) OVERBOARD	2) BELOW FREEB ^d)	X WITH EFFICIENT STORM VALVES.		
4 - 2" " FROM WASH BASINS & SCUPPERS	"	"	"	"	"	"
STARBOARD SIDE:—	2 - 4" " W.C. DISCHARGES	1)	"	"	"	"
3 - 2" " FROM WASH BASINS & SCUPPERS	"	"	"	"	"	"
2" " RAIN FROM MEAT ROOM	"	"	"	"	"	NON-RETURN VALVE.

Particulars of Side Scuttles:—

POOP SIDES ~ ABOVE FREEBOARD DECK.

16" DIA, STRONGLY CONSTRUCTED AND FITTED WITH HINGED DEAD LIGHTS.
(NONE BELOW FREEBOARD) DECK

Particulars of Guard Rails :—

AT POP, MAIN DECK & FORECASTLE

8 1/2"

9"

13"

1 1/2"

13 1/2" DIA

1/8" DIA

3'-6"

5'-1/2"

5'-1/2"

Particulars of Gangways, Lifelines, etc. :—

GUARD RAILS ON F&A GANGWAY.

A horizontal beam is shown with a downward-pointing arrow at its right end, representing a force.

F. & A. GANGWAY SUPPORT

SPACING 11'-6"

5'-4"
 FORE & AFT GANGWAY.

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</u>	<u>RAILS</u>	<u>FORE & AFT</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. ✓

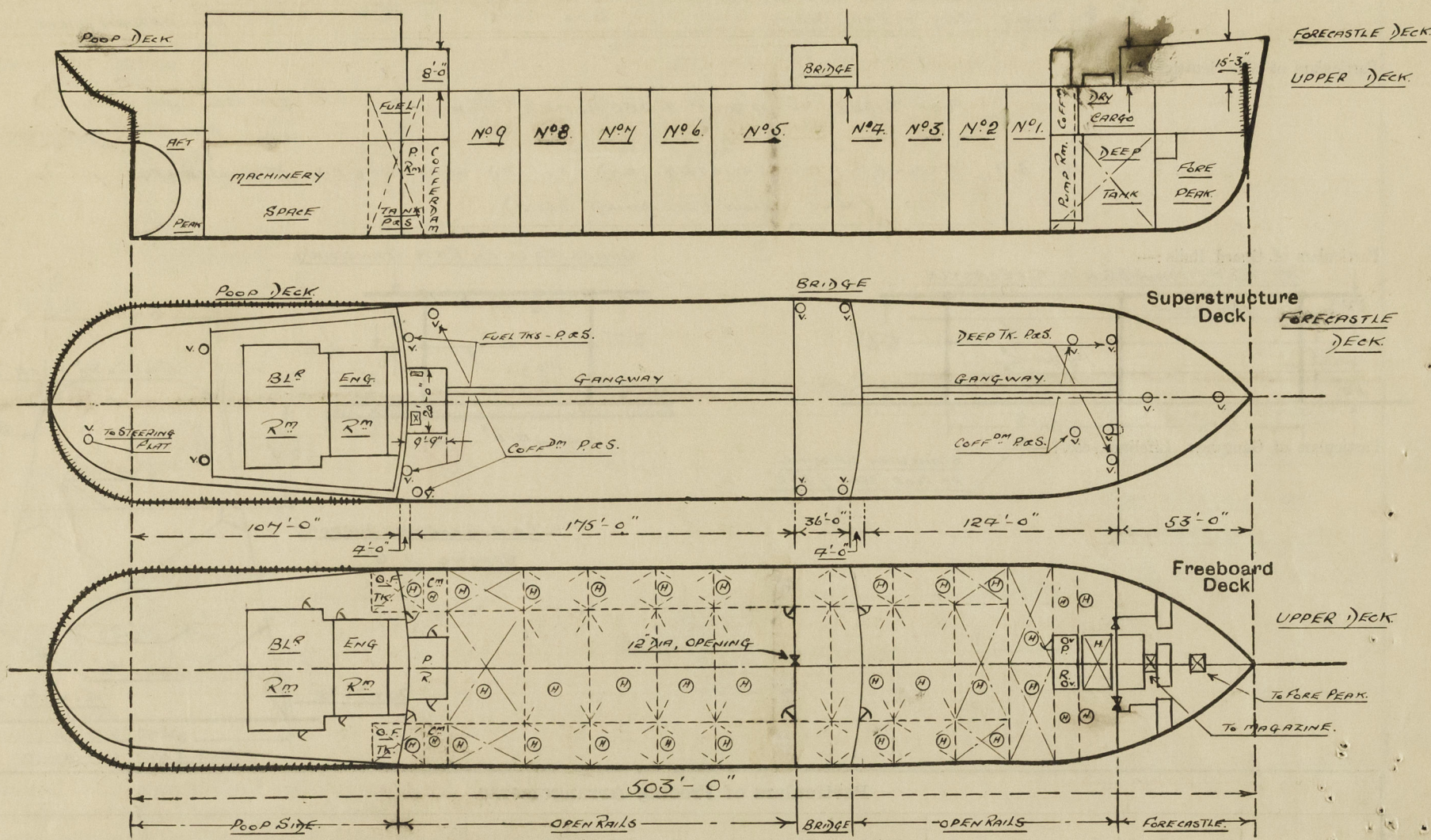
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓	3/8"	9" x 7" x 3/8" FLANGED PLATE	30"	ELECTRICALLY WELDED	5'-0" x 2'-7 1/2"	18"	8'-0"
Raised Quarter Deck Bulkhead ...	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, After Bulkhead	✓	3/8"	4" x 3" x 3/8"	30"	ELECTRICALLY WELDED	4'-3" x 3'-1"	24 3/4"	8'-0"
Bridge, Forward Bulkhead	✓	3/8"	9" x 7" x 3/8" FLANGED PLATE	30"	"	5'-0" x 2'-4 1/4"	18"	8'-0"
Forecastle Bulkhead	✓	3/8"	4" x 3" x 3/8"	30"	"	4'-3 1/4" x 3'-0 1/2"	25"	11'-0"
Forecastle , Aft	✓	3/8"	9" x 7" x 3/8" FLANGED PLATE	30"	"	5'-0" x 2'-2 3/4"	18"	8'-0"
Forecastle , Forward	✓	3/8"	4" x 3" x 3/8"	30"	"	5'-0" x 2'-2"	18"	8'-0"
Exposed Machinery Casings on Deck board or Raised Quarter Decks ...	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Super-structure Decks	✓	✓	✓	✓	✓	5'-0" x 2'-7 1/2"	18"	8'-0"
Machinery Casings within Superstructure not fitted with Glass or Closing Appliances	✓	✓	✓	✓	✓	✓	✓	✓
Backbones on End Deck Ships ...	✓	✓	✓	✓	✓	✓	✓	✓

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

Poop Bulkhead	HINGED STEEL W.T. DOOR, p & s, MANIPULATED FROM BOTH SIDES.	✓
Raised Quarter Deck Bulkhead	✓ 12" DIA OPENING AT CL FOR ACCESS TO SPARE GEAR IN BRIDGE SPACE. BOLTED STEEL WT. PLATE COVER	
Bridge, After Bulkhead	STEEL PLATES & HOOK BOLTS, p & s, 3/8" THICK PLATES, EACH WITH 12 HOOK BOLTS.	1
Bridge, Forward Bulkhead	HINGED STEEL WT DOOR, p & s, MANIPULATED FROM BOTH SIDES.	1
Forecastle Bulkhead	STEEL PLATES & HOOK BOLTS, p & s, 3/8" THICK PLATE, EACH WITH 12 HOOK BOLTS.	1
Exposed Machinery Casings on Fore- ward or Raised Quarter Decks	✓	
Exposed Machinery Casings on Super- structure Decks	HINGED STEEL WT DOOR, (p & s), (L & R), MANIPULATED FROM BOTH SIDES.	2020
Machinery Casings within Superstruc- tures not fitted with Class I Closing Apparatus	✓	
Deckhouses on Flush Deck Ships	✓	

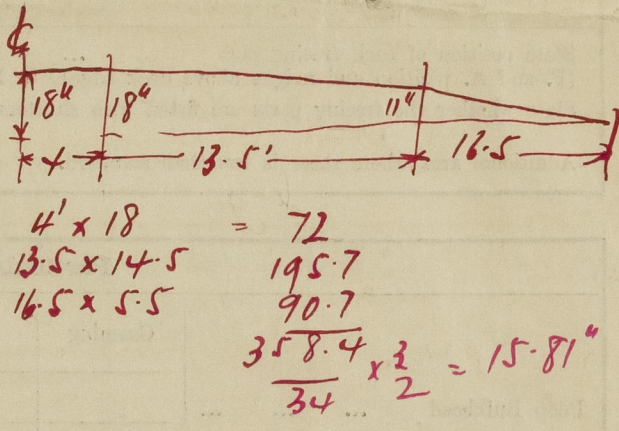
Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



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

Equivalent bulkhead
portlines
Poop at Side 107.0
2/3 x 4 2.67
Equiv = 109.67
Bridge at Side 36
2/3 x 4 2.67
Equiv 38.67

Round of beam.



Builder's name and yard number KAISER COMPANY, INC. PORTLAND, OREGON.
Names of sister ships S. S. "WHITE SANDS"
Owners ANGLO-SAXON PETROLEUM CO, LTD.
Fee £ 20 : - - - - - Received by me
EXPENSES 6/-
1725