

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "NACELLA"	Official Number 168444 NOT ASSIGNED	Nationality and Port of Registry BRITISH. LONDON.	Gross Tonnage 8196 NOT ASSIGNED	Date of Build 1943.	Port of Survey NEWCASTLE-ON-TYNE
Moulded Dimensions: Length 461'0" Breadth 59'0" Depth 34'0"					Date of Survey DURING CONSTRUCTION
Moulded displacement at moulded draught = 85 per cent. of moulded depth 17733 tons					Surveyor's Signature S. Little
Coefficient of fineness for use with Tables 790 791					Particulars of Classification 100 A.1 (CARRYING PETROLEUM IN BULK) (CLASS CONTEMPLATED)

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth 34'0"	(a) Where D is greater than Table depth (D-Table depth) R = (34.06 - 30.73)3 = +9.99"	Moulded Breadth (B) 59'0"
Stringer plate 0'0"	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = 3.33	Standard Round of Beam = $\frac{B \times 12}{50} =$ 14.16
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Ship's Round of Beam = 14 3/4
Depth for Freeboard (D) = 34'06"		Difference .59
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) =$ 59/4 x .5813 = -1.09"

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed <i>Equi...</i>	96.09	96.09	7'6"	✓	96.09	Standard Height of Superstructure 7.5
" overhang ...	✓					" " R.Q.D. ✓
R.Q.D. enclosed ...	✓					Deduction for complete superstructure 42.00
" overhang ...	47.20	47.20	7'6"	✓	47.20	Percentage covered $\frac{S}{L} =$ 42.00
Bridge enclosed <i>Equi...</i>	44.94	47.20	7'6"	✓	47.20	" " $\frac{S_1}{L} =$ 41.87
" overhang aft ...	2'3"25"	1.69			1.69	" " $\frac{E}{L} =$ 32.87
" overhang forward	6'04"	48.04	7'6"	✓	48.04	Percentage from Table, Line Tanker
F'cle enclosed ...	48'04"	48.04	7'6"	✓	48.04	(corrected for absence of forecastle (if required)) ✓
" overhang ...	✓					Percentage from Table, Line B.
Trunk aft ...	✓					(corrected for absence of forecastle (if required)) ✓
" forward ...	✓					Interpolation for bridge less than 2L (if required) ✓
Tonnage opening aft ...	✓					Deduction = 42.00 x .3287 = 13.81
" " forward	✓					
Total ...	193.58	193.02			193.02	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	56.10	1	56.10	56"	56.10	56.10	1	56.10	56"	Mean actual sheer aft = EXCESS
1/2 L from A.P. ...	24.96	4	99.84	25"	24.96	24.96	4	99.84	25"	Mean actual sheer forward = DEFICIENT
3/4 L " ...	6.17	2	12.34	6'18"	6.17	6.17	2	12.34	6'18"	Mean standard sheer forward
Amidships ...	-	4	-	NIL.	-	-	4	-	-	Length of enclosed superstructure forward of amidships =
3/4 L from F.P. ...	12.34	2	24.68	12'18"	12.18	12.18	2	24.36	12'18"	" " aft of " = Tanker
1/2 L " ...	49.93	4	199.72	49'6"	49.60	49.60	4	198.40	49'6"	sheer aft.
F.P. ...	112.20	1	112.20	111'875"	111.87	111.87	1	111.87	111'875"	56.10 1 56.10 56.00 1 56.00
Total ...			504.88					502.91		24.96 3 74.88 25.00 3 75.00
										6.17 3 18.51 6.18 3 18.54
										0 1 0 0 1 0
										149.49 149.54
										18 18
										1.97 (1.75-.21) = +.06"
										.54
										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 = **34'06"**
Summer freeboard = **6'71"**
Moulded draught (d) = **27'35"**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.84 = 6 3/4"**

Addition for Winter North Atlantic Freeboard (if required) = **6.84 + 4.61 = 11.45 = 11 1/2"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 16780$

Tons per inch immersion at summer load water line

$T = 56.15$

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

= **7.47**

= **7 1/2"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.790 + .68}{1.36} = 1.47/1.36$

Depth Correction **9.99**

Deduction for superstructures **- 13.81**

Sheer correction **.06**

Round of Beam correction **- .09**

Correction for Thickness of Deck amidships **-**

Other corrections, scantlings, etc. **-**

10.05 13.90 - 3.85

Summer Freeboard = **80.41**

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

Tropical Fresh Water Line above Centre of Disc ... **14 1/4"**
Fresh Water Line " " ... **7 1/2"**
Tropical Line " " ... **6 3/4"**
Winter Line below " " ... **6 3/4"**
Winter North Atlantic Line " " ... **11 1/2"**

Tropical Fresh Water Freeboard ... **6'8 1/2"**
Fresh Water " " ... **5'6 1/4"**
Tropical " " ... **6'1 1/2"**
Winter " " ... **6'1 3/4"**
Winter North Atlantic " " ... **7'3 1/4"**

21 MAY 1943

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Poop: 93.69
 $2\frac{2}{3} \times 3.60 = \frac{2.40}{96.09}$

Bridge: 44.60
 $\frac{2}{3} \times 3.9 = \frac{2.60}{47.20}$

Trade of ship. CARRYING PETROLEUM IN BULK. OCEAN GOING
Names of ~~the~~ ^{SIMILAR} ship. "DONOVANIA" REPORT NO 99437 NEWCASTLE.
Builder's name and yard number. SWAN, HUNTER & WIGHAM RICHARDSON LTD. WALLSEND-ON-TYNE NO 1675
Owners. "THE ANGLO-SAXON PETROLEUM CO. LTD."
Fee £

Particulars of Gangway Cargo and Coaling Ports :—

- NONE -

Particulars of Scuppers and Sanitary Discharge Pipes:— FROM UPPER DECK THROUGH STRINGER ANGLE. ✓
FROM POOP & BRIDGE SPACES SCUPPERS DISCHARGE OVERBOARD THROUGH STORM VALVES AT SHIP'S SIDE. ✓
" " " " DECKS " " " " " " " " " " ✓
" " " " SPACES SANITARY PIPES DISCHARGE OVERBOARD THROUGH STORM VALVES AT SHIP'S SIDE. ✓

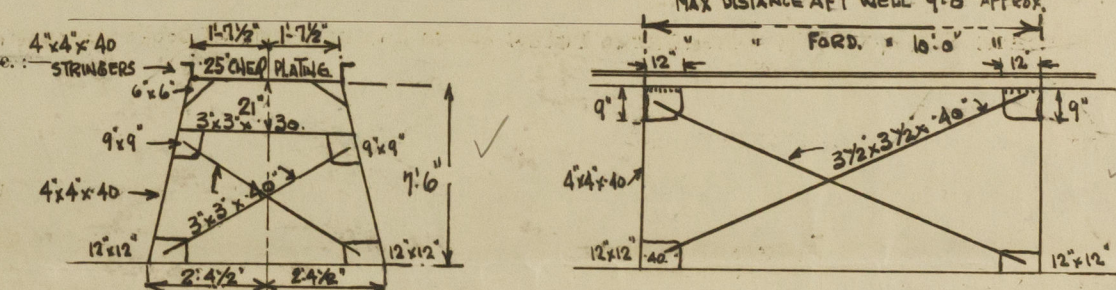
Particulars of Side Scuttles :—

SIDE SCUTTLES OF STRONG CONSTRUCTION AND FITTED WITH STRONG HINGED DEADLIGHTS. ✓



Vertical distance of Sill of lowest Side Scuttle above top of keel: NO SIDE SCUTTLES BELOW FREEBOARD DECK.

Particulars of Guard Rails:— At POOP, BRIDGE & FOLE DECKS - RAILS AND STANCHIONS OF STRONG CONSTRUCTION - 3 RAILS, 3'6" HIGH
STANCHIONS SPACED ABOUT 4'9" APART ✓
AT UPPER DECK. 3 RAILS, 3'6" HIGH, STANCHIONS SPACED ABOUT 4'9" APART ✓
BULWARKS AT UPPER DECK 3'6" HIGH, 44" THK, 7" B.A RAIL BAR; BULWARK STAYS 6" B.P. ABOUT 6'0" APART. ✓
BULWARK SPECIALLY STAYED ADJACENT TO ERECTION ENDS

Particulars of Gangways, ~~Lifelines~~ et
SUBSTANTIAL RAILS AND STANCHIONS
ROUND GANGWAY. 3 1/2" HIGH. 2 RAILS
STANCHIONS SPACED ABOUT 5'-0" APART



Particulars of Freeing Arrangements.

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	15' 6"	3' 6"	3' 0" x 1' 3" 	2	10.25 sq	✓
Forward Well	120' 0"	3' 6"	3' 0" x 1' 3" 	1	3.5 sq	✓

State position of each freeing port { After Well:— **AS SKETCH.** **14" HIGH ABOVE DECK.**
(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:— 3-7/8" DIA VERTICAL BARS.

Additional area where shear is less than standard.

OPEN RAILS 77'-0"

BRIDGE

OPEN RAILS 75'-0"

FORECASTLE

1'-3"

3'-0" x 1'-3"

33'-0"

12'

1'-6"

3'-0" x 1'-3"

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.									
Description of Hatchway		HATCHES TO CR. TANKS.	HATCHES TO SIDE TANKS.	MANHOLES TO COFFERDAMS.	MANHOLES TO BUNKERS	CARGO HATCH ON FO'CLE DECK (TRUNKED TO UPPER DECK.)	STORE HATCH ON FO'CLE DECK.	STORE HATCH ON UPPER DECK IN FO'CLE SPACE.	POOP DECK SMALL HATCH
Dimensions of Hatchway		4'0" DIA.	4'0" DIA.	23" x 18"	23" x 18"	8'0" x 8'0"	2'6" x 2'6"	2'6" x 2'6"	3'0" x 3'0"
COAMINGS	Height above Deck	10" ✓	10" ✓	7" INVERTED	7" INVERTED	30" ✓	9" BA ✓	9" B.A ✓	12" BA ✓
	Thickness	75" ✓	75" ✓	ANGLE TYPE	ANGLE TYPE	44" ✓	COAMING ✓	COAMING ✓	COAMING ✓
	Stiffeners	✓	✓	✓	✓	✓	✓	✓	✓
	Brackets, Stays	✓	✓	✓	✓	✓	✓	✓	✓
HATCH BEAMS	Number	✓	✓	✓	✓	✓	✓	✓	✓
	Spacing	✓	✓	✓	✓	✓	✓	✓	✓
FORE AND AFTERS	Number	✓	✓	✓	✓	✓	✓	✓	✓
	Spacing	✓	✓	✓	✓	✓	✓	✓	✓
HATCH COVERS	Material	42" THK. STEEL HINGED	42" THK. STEEL HINGED	50" BOLTED STEEL PLATE	50" BOLTED STEEL PLATE	40" THK. HINGED STEEL	40" THK. HINGED STEEL	40" THK. HINGED STEEL	40" THK. HINGED STEEL
	Thickness	STEEL HINGED	STEEL HINGED	STEEL PLATE	STEEL PLATE	HINGED STEEL	HINGED STEEL	HINGED STEEL	HINGED STEEL
Spacing of Cleats		✓	✓	✓	✓	✓	✓	✓	✓
Number of Tarpaulins		✓	✓	✓	✓	✓	✓	✓	✓
*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 any special features:—

OVERSHELL DISPLACEMENT AT 28'0" DRAFT B.K. 17138 TONS TONS PER INCH 56.35 TONS
" " " 27'0" " " 16463 " " " 55.96 "
DEPTH OF KEEL 15/8'

Endorsement at first survey and at surveys for renewal of Certificate:—

The fittings and appliances are in accordance with the particulars shown on this form (or as now modified) and are in good condition.

