

Rpt. C.11 (Comp.).
Dolabella 36103
Empire Bronze 36382.

hwc. no. 99188.

Index. No. 36476
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

15 1941

Ship's Name ECHODALE	Official Number 168069	Nationality and Port of Registry BRITISH LONDON	Gross Tonnage 8212 125 18/1/49 8150.45	Date of Build 1940	Port of Survey NEWCASTLE - ON - TYNE.
Moulded Dimensions: Length 461-0 Breadth 59-0 Depth 34-0					Date of Survey DURING CONSTRUCTION 1940-41.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 17737 tons					Surveyor's Signature H.B. Johnson
Coefficient of fineness for use with Tables .79					Particulars of Classification 100 A.1. CARRYING PETROLEUM IN BULK GLASS 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 = 3.33 x 3 = 9.99	Moulded Breadth (B) 59.00
Stringer plate06	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	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 = 14.75"
Depth for Freeboard (D) = 34.06		Difference Excess .59
		Restricted to
		Correction = $\frac{\text{Diff}^a}{4} \times \left(1 - \frac{S_1}{L} \right) =$.59 x .58 = .09"

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed Equiv. 11'	96.09	96.09	7.50	✓	96.24
" overhang ...					
R.Q.D. enclosed					
" overhang					
Bridge enclosed Equiv. 7'	47.21	47.21	7.50	✓	49.08
" overhang aft	2.50	1.87			
" overhang forward	.50				
Fore enclosed	48.04	48.04	7.50	✓	48.04
" overhang	NIL				
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	193.84	193.21			193.21

Standard Height of Superstructure 7.5'	
" " R.Q.D. ✓	
Deduction for complete superstructure 42.80'	
Percentage covered $\frac{S}{L} =$ 42.05	
" $\frac{S_1}{L} =$ 41.91	
" $\frac{E}{L} =$ 41.91	
Percentage from Table, Line A. Tanker 32.91	
(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 x .3291 = 13.82"	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	56.10	1	56.10	56.0	56.00	1	56.00	56.00	
$\frac{1}{2}$ L from A.P. ...	24.96	4	99.84	24.87	24.87	4	99.48	99.48	
$\frac{3}{8}$ L " ...	6.17	2	12.34	6.12	6.12	2	12.24	12.24	
Amidships ...	-	4	-	✓	-	4	-	-	
$\frac{3}{8}$ L from F.P. ...	12.34	2	24.68	12.25	12.25	2	24.50	24.50	
$\frac{1}{2}$ L " ...	49.93	4	199.72	49.87	49.87	4	199.48	199.48	
F.P. ...	112.20	1	112.20	112.50	112.50	1	112.50	112.50	
Total			504.88				504.20		

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{.68}{18} \times (.75 - .1104) = +.02"$
If limited on account of midship superstructure. **✓**

Mean actual sheer aft = **Deficient**
Mean standard sheer aft

Mean actual sheer forward = **Deficient**
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = **Tanker with deficient sheers.**
aft of " =

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard.	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 16740 Tons per inch immersion at summer load water line $T =$ 56.02 Deduction = $\frac{\Delta}{40T}$ inches = 7.47 = 7 1/2"	TABULAR FREEBOARD (corrected for Fresh Deck (if required)) Correction for coefficient .795 .68 = 1.47/1.36 1.36	77.95 84.26
Depth to Freeboard Deck = 34.06 Summer freeboard = 6.71 Moulded draught (d) = 27.35		Depth Correction ... 9.99 Deduction for superstructures ... 13.82 Sheer correction02 Round of Beam correction09 Correction for Thickness of Deck amidships ... - Other corrections, scantlings, etc. ... -	61-8 1/2" 51-6 1/4" 6'-1" 6'-1 3/4" 7'-3 1/4" 7'-8"
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"		Summer Freeboard = 80.36	-3.90

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

18 FEB 1941

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 ... **61-8 1/2"**
Fresh Water " " ... **51-6 1/4"**
Tropical " " ... **6'-1"**
Winter " " ... **6'-1 3/4"**
Winter North Atlantic " " ... **7'-3 1/4"**

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21/2/41

Echodale.

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.

Deck

At Side

93.69

$+ \frac{1}{3} \times 3.6$

1.40

96.09

= equi
enclosed
length

Bridge

At Side

44.61

$+ \frac{1}{3} \times 3.9$

1.61

47.21

EXTREME DISPL	AT	26.0	EXTREME DRAUGHT -	15756 TONS,	TONS PER INCH -	55.46
"	"	27.6	"	" = 16763 "	"	56.05
"	"	29.0	"	" = 17776 "	"	56.68

BOTTOM OF KEEL $1\frac{1}{2}$ " BELOW BASE.

Trade of ship OCEAN GOING

CARRYING PETROLEUM IN BULK

Names of sister ship

S.S. EMPIRE BRONZE

SAME BUILDERS

YARD N° 627

Builder's name and yard number

MESSRS R.W. HAWTHORN, LESLIE & CO. LTD

N° 628.

Owners

H.M. REPRESENTED BY THE COMMISSIONERS. FOR EXECUTING THE OFFICE OF LORD HIGH ADMIRAL OF THE U.K.

Fee £

19-0-0

TO BE CHARGED WITH
FIRST ENTRY FEE.



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