

17-10-41

LL40/0 for B/T  
LL40 for owner, ✓

Form LL. 4.C. Revised

THE BRITISH CORPORATION REGISTER OF  
SHIPPING AND AIRCRAFT

1860

BLUEWATER

HAWKEFJELL

SURVEY FOR FREEBOARD

STEAMER, TANKER, SAILER

EX. "EMPIRE" DRUID" Now "NORHOLM"

WITHOUT TIMBER DECK CARGO

Nationality

BRITISH NORWEGIAN.

Builders' Name and No. of Ship SIA JAMES LAING &amp; SONS LTD,

Port of Registry

SUNDERLAND OSLO.

No 738

Official Number

169002

L.N.A.K. L.L.M.D

Owners

NORWEGIAN GOVERNMENT.

THE MINISTRY OF WAR TRANSPORT

Gross Tonnage

9813

MANAGERS:-

THE EAGLE OIL AND SHIPPING CO. LTD

Date of Build

12/41

Port and Date of survey SUNDERLAND (DURING CONSTRUCTION)

Name of Surveyor

W. J. Noble.

Particulars of Classification

B. S \*

Names of Sister Ships

S. S "EMPIRE OPAL"

S. S. EMPIRE PEARL

Type of Superstructures

FORECASTLE AND POOP

Trade of Ship

Service Endorsement if any

SUMMER FREEBOARD recommended amidships from centre of disc to top of deck line, (.....wood.....steel)

TROPICAL FRESH WATER LINE above centre of disc

14 1/2"

Corresponding Freeboard

FRESH WATER LINE

" " "

7 1/2"

" "

TROPICAL LINE

" " "

7"

" "

WINTER LINE

below " "

7"

" "

WINTER NORTH ATLANTIC LINE " " "

11 1/2"

" "

SUMMER TIMBER FREEBOARD recommended amidships from top of deck line

TROPICAL FRESH WATER Timber line above L.S.

Corresponding Freeboard

FRESH WATER

" " " "

" "

TROPICAL

" " " "

" "

WINTER

" " below "

" "

WINTER NORTH ATLANTIC " " " "

" "

Number of years recommended for load line certificate

Date of Expiry. 10th Dec 1946.

Date of Issue. 21st April 1942.

A. L. Summary done 12/42

The scantlings and protective arrangements being in accordance with the Load Line Rules it is submitted that the freeboards be assigned

Chief Surveyor

Passed at a meeting of the Committee of Management of the British Corporation Register of Shipping and Aircraft

on the

5th November 1941

Secretary



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Foundation

002442-002448-0215



## COMPUTATION OF FREEBOARD

Length on summer load line **476'-11"** Moulded Breadth **68'-0"** Moulded Depth **36'-0"** Depth of Keel **2'-4 1/2"**  
 Moulded displacement (ex bossing) at moulded draught of 85 per cent. of moulded depth **21467** Tons  
 Co-efficient of fineness for use with tables  $\frac{\Delta \times 35}{L \times B \times D \times 85} = .7568$   
 Displacement and tons per inch immersion in salt water at summer load line **19438 @ 38'-2" draft 65.2**  
 Moulded depth **36'-0"** **36.000** Deduction for Fresh Water  $\frac{\Delta}{40T} = .7475$  inches  
 Stringer Plate **8 1/2"** **.068** Round of Beam Correction  
 Sheathing on exposed deck T  $\left(\frac{L-S}{L}\right)$  Ships Round of Beam **17** inches  
 Rise of floor (in sailers) **1** Standard Round of Beam **Bx12** **16.32**  
 Depth for Freeboard (D) **36.068** Difference **.68**  
 Table Depth **2/5** **31.798** Restricted to  
 Depth Correction **3 x 4.2/10 = 12.81** Correction Difference  $\times \left(1 - \frac{E}{L}\right) = .17 \times .6988 = .12$  off  
 If restricted by superstructures

Station	Enclosed Length	Length of Overhang Aft	Height	Mean Covered Length (S)	Height Correction	Effective Length (E)
Poop (at side)	109'-1 1/2"	6'-1 1/2"	7'-6"	109.3	1	113.21
Raised Quarter-Deck						
Bridge						
Forecastle	34'-6"		7'-6"	34.5	1	34.5
Trunk Aft						
Forward						
Tonnage Opening Aft						
Forward						
Totals				143.63		147.71

Standard Height of Superstructure **7'-6"**  
 " " R.Q.D.  
 Percentage covered S/L = **30.12%**  
 " " E/L = **30.97%**  
 " from Table line A, B, (corrected for absence of forecastle if required)  
 Percentage from Table by interpolation for Bridge  
 less than 2L if required = **1**  
 Deduction = **1**  
 Percentage from Table for Tankers (for Tankers ships) **31.97**  
 Deduction = **42 x .3197 = 13.23** off

Station	Actual Sheer	Standard Sheer	Effective Sheer	S.M.	Product
A.P.	45 5/8"	57.69	43.63	1	43.63
1/2 L from A.P.	20 1/8"	26.67	20.38	4	81.52
1/2 L from A.P.	5 3/8"	6.35	5.38	2	10.76
Amidships	-	-	-	4	-
1/2 L from F.P.	6 3/4"	12.69	6.75	2	13.5
1/2 L " "	26 3/4"	51.35	26.75	4	107.0
F.P.	62 1/4"	115.39	62.25	1	62.25
				18	320.66
Effective Mean Sheer					17.812
Standard " "					28.348
Difference					11.036

Mean Actual sheer aft = **< 1**  
 " Standard " "  
 Mean Actual sheer forward = **< 1**  
 " Standard " "  
 Length of enclosed superstructure forward of amidships = **1**  
 Length of Ship  
 Length of enclosed superstructure aft of amidships = **1**  
 Length of Ship  
 Sheer Correction = Difference  $\times \left(75 - \frac{S}{2L}\right) = 11.036 \times .5994 = 6.62$  in  
 If limited on account of midship superstructure = **1**  
 " to maximum allowance of 1 1/2 ins. per 100 ft. = **1**

TABULAR FREEBOARD corrected for flush deck if required = **81.94**  
 Correction for co-efficient = **1.4368/126** = **86.58** DRAUGHTS AND SEASONAL CORRECTIONS

	+	-			
Depth correction	12.81	1	Winter, Tanker, Season	Timber	
Deduction for superstructures	1	9.23			
Sheer correction	6.62	1	Depth to Freeboard Deck in feet	36.068	
Round of Beam correction	1	1.12	Summer Freeboard in feet	8.042	
Correction for thickness of deck amidships	1	1	Moulded Draught (d)	28.026	(d1)
Other corrections, scantlings, etc.	1	1	Addition for Keel	.202	
	19.43	9.35	Extreme draught	28.228	
Summer Freeboard in Inches	8'-0 1/2"		Deduction for Tropical and addition for Winter freeboard d/4 = 1.005 ins.		
Additional allowance for superstructures on Timber carrying ships			Addition for Winter North Atlantic (if required)	11.715	ins.
Summer Timber Freeboard in Inches			Deduction for Tropical Timber Freeboard		ins.
			Addition for Winter		ins.
			" " N.A. Timber Freeboard (if required)		ins.

Form LL. 4.D.

# THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT

## SURVEY FOR FREEBOARD

### CONDITIONS OF ASSIGNMENT

SHIPS NAME **"EMPIRE DAVID"** OFFICIAL NUMBER **169002**  
 Nationality and Port of Registry **BRITISH, SUNDERLAND.**

## PARTICULARS OF SUPERSTRUCTURES, TRUNKS, CASINGS, DECKHOUSES

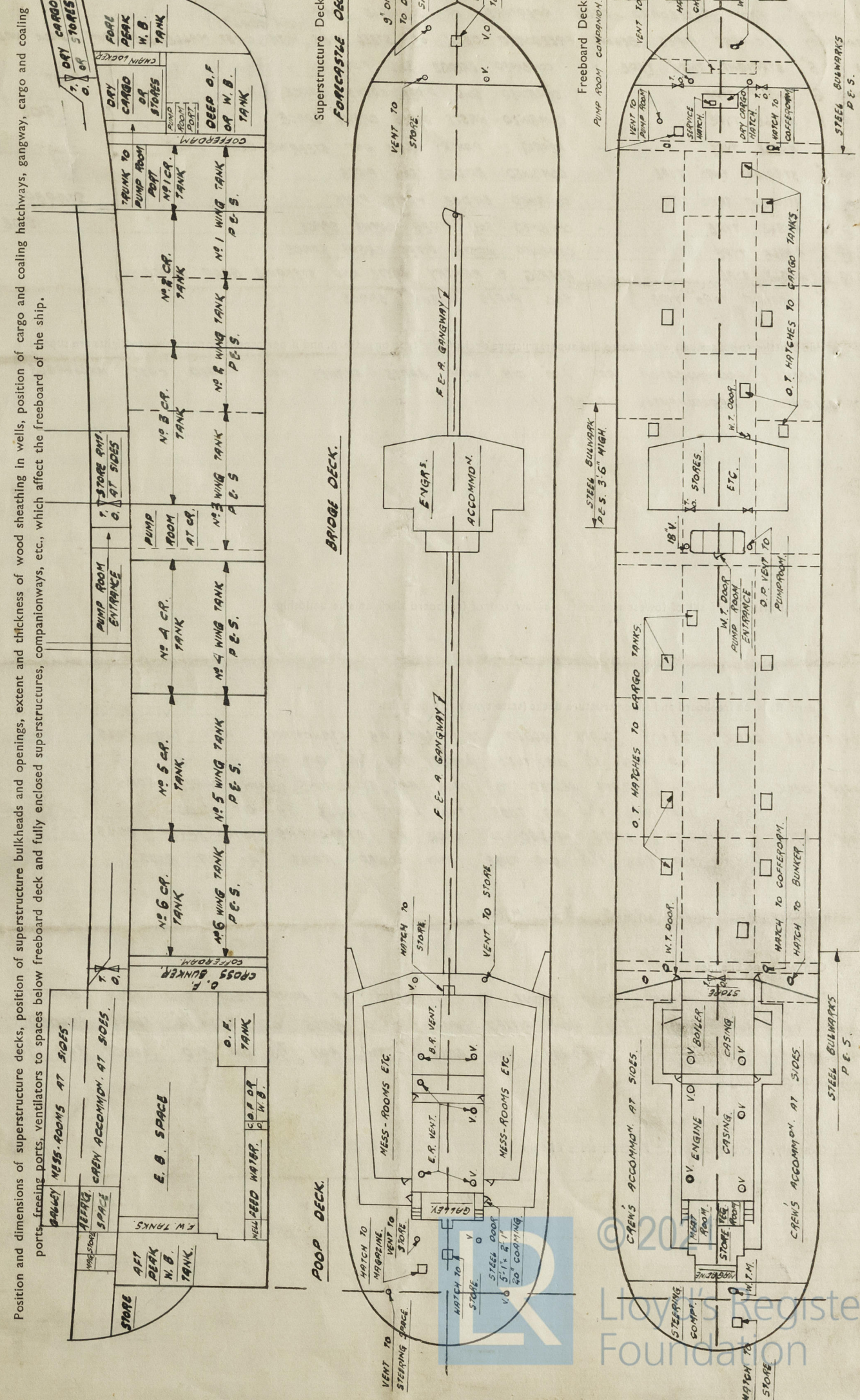
	Coaming	Plating	Stiffeners	Spacing	End Attachments	No. and size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	-	.44'	10' 3 1/2" x 5' 8"	2' 7"	6' 3 1/2" LUGS AT TOP HELDED AT BOTTOM	2 NO. AT CR. 5'-0" x 4'-1" 2. PATENT DOORS 4'-6" x 2'-3"	1'-6"	7'-6"
Bridge Aft Bulkhead								
Forward								
Forecastle Bulkhead	-	.30'	5' 3' 5/16" x 0.9"	2' 6"	10 BOUNDARY BARS	2. 7'-0" x 4'-1" 3'-1"	1'-6"	7'-6"
Trunk Aft								
Forward								
Exposed Machinery Casings on Freeboard or R.Q. Decks								
Exposed Machinery Casings on superstructure decks								
Machinery Casings within Superstructures not fitted with Cl. 1 closing appliances	-	.26'	4' 2 1/2" x 1' 4"	3' 10"	8 KTS. 10 TOP	ONE P.E.S. 5'-0" x 2'-0"	1'-6"	7'-6"
Deckhouses on flush deck ships								

## PARTICULARS OF CLOSING APPLIANCES (state if capable of being manipulated from both sides)

Poop Bulkhead	3 1/4" FULL HEIGHT WEATHER BOARDS IN CHANNELS RIVETED TO BULKHEAD AND HINGED STEEL. W.T. DOORS.
Bridge Aft Bulkhead	
Forward	
Forecastle Bulkhead	3" FULL HEIGHT WEATHER BOARDS IN CHANNELS RIVETED TO BULKHEAD.
Exposed Machinery Casings on Freeboard or R.Q. decks	
Exposed Machinery Casings on superstructure decks	
Machinery Casings within superstructures not fitted with Cl. 1 Closing Appliances	STEEL DOORS P.E.S. OPERATED FROM BOTH SIDES.
Deckhouses on Flush Deck ships	

## PARTICULARS OF FREEING ARRANGEMENTS

	Length of Bulwark	Height of Bulwark	No. and size of Freeing Ports each side	Area each side	Rule Area
After Well	16'-6"	3'-6"	2 @ 3'-6" x 9"		
Forward Well	23'-10"	3'-6"	1 @ 8'-0" x 9"		
State fore and aft position and height above deck to bottom of port, for each port					
State whether freeing ports are fitted with shutters, bars or rails, and give particulars					
Give particulars of freeing port area, etc., on superstructure decks					





# PARTICULARS OF ALL HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Number and description of Hatchway from forward	FORECASTLE OK.	UPPER DECK	UPPER DECK	UPPER DECK	UPPER DECK	UPPER DECK	UPPER DECK	POOP DECK	POOP DECK	POOP DECK
	HATCH TO TUGEN DECKS.	HATCH TO CHAIN LOCKER	HATCH TO DRY CARGO STORE	SERVICE HATCH TO CARGO STORE 30' x 24' OVAL M.H. WITH RECTANGULAR COAMING.	4. COFFERDAM HATCHES 2' 0" x 1' 11" OVAL	18. CARGO TANK HATCHES.	HATCH TO AFTER STORE	HATCH TO STORE	HATCH TO AFTER STORE	HATCH TO MAGAZINE
Dimensions of Hatchway	2'-6" x 2'-6"	1'-10" x 2'-12"	8'-0" x 12'-0"		1'-6" x 1'-11" OVAL	5'-3" x 4'-0"	2'-0" x 2'-0"	2'-6" x 2'-6"	2'-6" x 2'-6"	2'-6" x 2'-6"
COAMINGS	Height above steel deck	4'	9'	2'-6"	4'	8'	9'	18'	9'	9'
	Thickness	3/8" 3/8"	40" 40"	44" 44"	3/8" 3/8"	40" 40"	40" 40"	40" 40"	40" 40"	40" 40"
	Stiffeners	NONE	NONE	7' x 3' 3/8" B.A. HORIZONTAL	NONE	NONE	NONE	NONE	NONE	NONE
	Brackets or Stays	NONE	NONE	4 - 1/2" BKTS. E.W. TO DECK	NONE	NONE	NONE	NONE	NONE	NONE
HATCH BEAMS	Number									
	Spacing									
	Scantling and Sketch									
	Bearing Surface and thickness of carriers or sockets									
FORE AND AFTERS	Number									
	Spacing									
	Unsupported lengths									
	Scantling and Sketch									
HATCH COVERS	Bearing Surface and thickness of carriers or sockets									
	Material	STEEL	WOOD	STEEL WITH 6' x 3' 1/2" x 1/2" B.A. STIFFENERS	STEEL	STEEL	STEEL WITH 3' 1/2" x 3' 1/2" x 1/2" STIFFENERS	WOOD	WOOD	STEEL
	Thickness	40'	3'	36'	42'	50'	50'	3'	3'	40'
	How Fitted	-	-	-	-	-	-	-	-	-
HATCH COVERS	Bearing Surface	4 TOGGLES E- 2 HINGED	8 CLEATS	14 TOGGLES E- 6 HINGED	4 TOGGLES E- 2 HINGED	3 TOGGLES E- 2 HINGED	16 TOGGLES	8 CLEATS	8 CLEATS	6 TOGGLES E- 2 HINGED
	Spacing of Cleats	NONE	2	NONE	NONE	NONE	2	2	2	NONE
	Number of Tarpaulins	NONE	2	NONE	NONE	NONE	NONE	NONE	NONE	NONE

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

YES.

Are lashings provided in accordance with rule requirements?

Not Required

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

NONE

Are battens and wedges efficient and in good condition?

YES

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