

RECEIVED

8 NOV 1943

IN

STEEL STEAMER

Received at London Office

State if Report has been sent on the Freeboard of the Vessel YES.

State if Report is sent on the Machinery of the Vessel YES.

17523

Date of completion of report 5th November 1943. Port of MIDDLESBROUGH. No.

Survey held at HAVERTON HILL - ON - TEES Date First Survey 23rd June, 1942 Last Survey 22nd October 1943.

On the S/S "EMPIRE CHIEFTAIN."

State Type (Complete Superstructure without Tonnage Openings) COMPLETE SUPERSTRUCTURE WITHOUT TONNAGE OPENINGS State Type of Erections POOP & F.CLE

TONNAGE under 8904.09 CLASS 100A.1 WITH State if with freeboard YES Built at HAVERTON HILL - ON - TEES.

Launched 20 MAY 1943 Yard No. 354.

Builders FURNESS S.B. CO LTD

Owners MINISTRY OF WAR TRANSPORT.

Managers ROYAL MAIL LINES, LTD.

ROYAL MAIL HOUSE.

Residence LEADENHALL STREET, LONDON EC3.

Port of Registry MIDDLESBROUGH.

If surveyed while building, afloat, & in dry dock

SURVEYED WHILE BUILDING & AFLOAT & DRY DOCK.

Do of space or spaces between Tonnage Dk. and Upper Dk. ✓
Total 8904.09
Gross Tonnage 9903.95
Net Tonnage 7165.21

REGISTERED DIMENSIONS.

Length 475.55'
Breadth 64.4'
Depth 40.05'

CLASS 100A.1 WITH State if with freeboard YES
FREEBOARD. SCANTLING as condition of Class
SUITABLE FOR A MLD. DRAFT, WITH TONNAGE OPENINGS
CLOSED, OF 29'-7 1/4"
Length from fore part of stem to after part of stern post on summer L.W.L. See Sec. 3 (1a) L 465'-0"
Breadth (greatest moulded) B 64'-0"
Depth, at middle of length from top of keel to top of beam at side of uppermost continuous deck. See Sec. 3 (1c) D 40'-12"
1st Longitudinal Number (L x D) 465 x 40.12 = 18655
2nd Numeral L x (B + D) 465 x 104.12 = 48415
Framing Depth "d," at middle of length. See Sec. 3 (1d) 17'-3"
Proportions—Depth to Length—Uppermost continuous deck to top of keel 10.9 To UPPER DECK.
Do. Long Bridge to top of keel ✓
Draught Moulded (CLOSED BASIS) 29'-7 1/4"

FRAMES, DOUBLE BOTTOM AND BEAMS.

	INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.
IES, Spacing amidships	33" ✓	
" from 1/2 length to Collision bulkhead	27" ✓	
" in peaks	24" ✓	
FRAMING.		
ume Amidships, 33" 12" 3 1/2" 44" EVERY ✓		
Extends up to 2" & 3" DECKS ALT ✓		
N ^o 147 to Collision Bulk. 15'-4" 4" 62" C WITH BACK BARS 3" 3 1/2" 48" ✓		
versed Frame Amidships, Angle ✓		
Extends up to...		
pth of Framing Girder	12" ✓	
ames in Uppermost Continuous 'tween Decks, 8" 8" 3 1/2" 40" EVERY ✓		
" Second 'tween Decks, 12" 12" 3 1/2" 44" ALT ✓		
" Third " " " ✓		
aming in Peaks, 9" 9" 3 1/2" 48" ✓		
iameter and Spacing of Rivets through Frame and Shell Plating amidships	7/8" 5 1/4" ✓	
ate if Frame Joggled	YES ✓	
TING ARRANGEMENTS (Sec. 7), state system and particulars		
P FRAMES, CLOSER SPACING, & INCREASED THICKNESS OF SHELL PLATING	AS APPROVED ✓	
ENGTHENING OF BOTTOM FORWARD. State Particulars	SHELL 7/8" WITH INTERCOSTALS ✓	
DOUBLE BOTTOM.		
ors, Depth and thickness at mid-line in Holds		
Height of Brackets at side above base line at toe of frame		
ddle Line Keelson, on Floors, Angles, [or [
" " Through Plate or Intercostal Plate		
" " Foundation Plate on Floors		
" " Flat Plate Keel Angles		
e Keelsons, No. each side		
" thickness of Intercostal Plate		
" Angles		
DOUBLE BOTTOM.		
Solid Floors, thickness and spacing	45" EVERY	
" " Are Frame and Reversed Frame joggled? FRAMES ONLY		
Bracket Floors, breadth and thickness at middle line		
" " breadth and thickness at margin plate		

	INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.
Bracket Floors, Frame		
" " Reversed Frame		
" " Vertical Struts		
Centre Girder, depth and thickness amidships	47" 58" ✓	
" " top Angles DOUBBLE	3 1/2" 3 1/2" 50" ✓	
" " bottom Angles DOUBBLE	5" 5" 56" ✓	
Side Girders, No. each side and thickness	ONE IN N ^o 3 TANK W.T. 42" ✓	
Margin Plate depth (excl. of flange) and thickness	39" 58" ✓	
" " Vertical Angle to Tank side Bracket abaft 1/2 len. from stem	6" 6" 48" ✓	
" " Vertical Angle to Tank side Bracket forward 1/2 len. from stem	6" 6" 48" ✓	
" " Gussets, spacing and scantling abaft 1/2 len. from stem	21" 45" CONTINUOUS PLATE ✓	
" " Gussets, spacing and scantling forward 1/2 len. from stem	TANK TOP LEVEL OUT ✓	
Tank Side Brackets, height above base line at toe of Frame and thickness	LEVEL WITH TANK TOP IN N ^o 2, 3, 4 & 5 HOLDS 48" ✓	
INNER BOTTOM PLATING.	76" 48" IN M.S. ✓	
Breadth and thickness of Middle Line Strake	64" 62" ✓	
Thickness of remainder in Holds	48" ✓	
Are Rule requirements complied with regarding increases of scantlings in way of double bottom in E. & B. space and framing in Bunkers and Boiler Room?	YES ✓	
BEAMS.		
Uppermost Continuous Deck, amidships	9" 3 1/2" 44" ✓	
" " in way of Bridge, Angle, [or [
Spacing	EVERY ✓	
Second Deck, amidships, 11" 11" 3 1/2" 44" ✓		
Spacing	EVERY ✓	
Third Deck, amidships, 11" 11" 3 1/2" 46" ✓		
Spacing	EVERY ✓	
Fourth Deck, amidships, Angle, [or [
Spacing	✓	
Poop Deck, 9" 9" 3 1/2" 375" ✓		
Spacing	EVERY ✓	
Bridge Deck, Angle, [or [
Spacing	✓	
Forecastle Deck, 7" 7" 3" 42" ✓		
Spacing	EVERY ✓	

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PILLARS AND DECKS.

	INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.		INCHES IN SHIP.	Any Departure from Approved Plans to be Noted.
PILLARS, No. of Rows.....	TWO ✓		Stringer Plate, breadth and thickness in way of Bridge	✓	
" ^{upper} in 'tween Decks, Size and Spacing.....	10" x .42 AND AS PER PROFILE ✓		Thickness of Plating abreast Deck openings in way of Wells .....	.42 ✓	see plan
" " " " "			Thickness of Plating abreast Deck openings in way of Bridge	✓	
" in Holds " "	30" x .75" AS PER PROFILE ✓		Thickness of Plating within line of openings... ..	.36 ✓	
" " " " "			If Sheathed, material and thickness	✓	
Centre Line Bulkhead.			Third Deck. From N^o 9 To N^o 146 Buos		
Stiffeners and Spacing.....	✓		Stringer Plate, breadth and thickness.....	72" .36 ✓	
Plating, thickness of	✓		If Plated, state thickness.....	.32 ✓	see plan
STRINGERS AND DECKS.			Fourth Deck.		
Uppermost Continuous Deck.			Stringer Plate, breadth and thickness.....	✓	
Stringer Plate, breadth and thickness in Wells	72" .72 ✓		If Plated, state thickness	✓	
" " " " in way of Bridge	✓		Poop Deck.		
" Angle in Wells	6' 6" .72 ✓		Stringer Plate, breadth and thickness .....	.30 ✓	
Thickness of Plating abreast Deck openings in way of Wells .....	.61 ✓		Plating, Sheathing , material and thickness ...	.30 ✓	
Thickness of Plating abreast Deck openings in way of Bridge	✓		Bridge Deck.		
Thickness of Plating within line of openings... ..	.43 ✓		Stringer Plate, breadth and thickness.....	✓	
If Sheathed, material and thickness	✓		Plating, Sheathing, material and thickness ..	✓	
Second Deck.			Forecastle Deck.		
Stringer Plate, breadth and thickness in Wells	72" .44 ✓		Stringer Plate, breadth and thickness.....	36" .38 ✓	
			Plating, Sheathing , material and thickness ..	UNDER MINOLAS .50 ✓	

SHELL PLATING.

SCANTLINGS.					RIVETING.								
STRAKES.	AS IN VESSEL.				ANY DEPARTURE FROM APPROVED PLANS TO BE NOTED.	EDGES. State if joggled?			BUTTS.				
	AMIDSHIPS.		FORWARD.	AFT.		SINGLE OR DOUBLE.	RIVETS.		NO. OF ROWS OF RIVETS.	RIVETS.		STRAPPED OR LAPPED.	
	Breadth. Inches.	Thickness. Inches.	Thickness. Inches.	Thickness. Inches.			Diam. Inches.	Spacing cr. to cr. Inches.		Diam. Inches.	Spacing cr. to cr. Inches.		
FLAT PLATE KEEL	55	.90	.85	.85		2	1	3 3/4	4	1	4	LAP.	
" DBLG. (if any)	2 @	.78 Forw. of 1/2 L.				3 BUTTS AFT & 3 FORWARD KEEL BUTTS (INSIDE BUTTSTRAPS FITTED TO 3 BUTTS AFT.)							
BOTTOM PLATING, No. of Strakes 4	83	.71	.52	.68		2	7/8	3 3/8	4	7/8	3 1/2	LAP.	
BILGE PLATING, No. of Strakes 1 .....		.71	.52	.68		2	7/8	3 3/8	4	7/8	3 1/2	STRAP.
SIDE PLATING, No. of Strakes 4	81	.68	.50	.50		2	7/8	3 3/8	3	7/8	3	LAP.	
UPPER DECK, Sheer-strake to Water	84	.81	.50	.50	.79 apprd only				4	1	4	LAP	
UPPER DECK, Sheer-strake in Bridge ...	✓												
STRAKE BELOW Sheer-strake to Water	84	.72	.50	.50	.74 apprd only	2	7/8	3 3/8	4	7/8	3 1/2	LAP	
STRAKE BELOW Sheer-strake in Bridge ...	✓												
POOP SIDE PLATING 1 .....			.42			1	{ 3/4 2 3/4 7/8 3 1/4		2	3/4	2 5/8	LAP.
BRIDGE SIDE PLATING ...	✓												
FOREO'LE SIDE PLATING (2)		.44				1	3/4	3	1	3/4	2 5/8	LAP.	

WATERTIGHT BULKHEADS.

Total No. of W.T. BULKHEADS in Vessel—

Extending to Upper Deck (Sec. 3 c)

„ Deck next below

As per Rule

	Plating Thickness.	STIFFENERS.			
		VERTICAL.		HORIZONTAL.	
		Scantlings.	Spacing.	Scantlings.	Spacing.
MIDSHIP BULKH'D. Upper tween decks	·26"	7 × 3 × ·33	7 31½"	✓	✓
" " Second "	·27	6 × 3 × ·34	7 31½"	✓	✓
" " Third "	✓				
" " Holds ... N ^o 124 ...	·41 - 31	10 × 3½ × ·49	7 31½"	✓	✓
" " ABOVE 2 nd DECK.	35 - 28	8 × 3 × ·46	7 24"	✓	✓
" " (in Hold) N ^o 169 ...	51 - 33	10 × 3½ × ·40	7 24"	✓	✓
COLLISION { N ^o 15 To UPPER DECK.	30	4 × 3 × ·30	OA 31½"	3 STRINGERS.	6'-0"
AFTER PEAK N ^o 9 To S.G. FLAT.	45 - 30	9 × 3 × ·40	7 24"	S.G. FLAT.	8'-0"
				2 DECKS	8'-0"

FORGINGS and CASTINGS.

	Casting or Forging.	Scantlings.	Maker's Name.	Any departure from approved plans to be noted.
KEEL STR FLAT PLATE ✓				
STEM { 11' x 2 1/4" ROLLED STEEL ✓ PLATE ABOVE NO. 1 STRG.		4' 1'-5" 1/2" 15/8" ✓		
STERN FRAME { Propeller Post CAST STEEL ✓ Rudder " 2 3/8" 1 1/2" RAD.		1'-5" 7"		
Speed of Vessel 15 KNOTS ✓				
RUDDER Type DOUBLE PLATE STREAM LINEO				
" A x D ... 770. ✓				
" Diam. of head FORGED STEEL 13 3/4" DIA.				
" Mainpiece at top pintle { COUPLING & BOTTOM PIECE				
" " heel ... CAST STEEL				
" how constructed BUILT UP & E.W.				
" double single plate 52"				
" coupling, single 6 - 3 3/4" DIA.				
" horizontal STEEL FITTED BOLTS				

STERN FRAME BY THE WOLSHAM STEEL CO.
RUDDER HEAD & TOP & BOTTOM GUDGEON PLATES BY :- WOLSHAM STEEL CO.
TILLER BY DENNYSTOWN FORGE CO. LTD.

STEEL.

Manufacturer's Name or Trade Mark of the Steel used in the construction of the Vessel (state process of manufacture) OPEN HEARTH PROCESS ✓

PLATES :- SOUTH DURHAM S. & I CO. LTD.

ANGLES:- SKINNINGROVE, CARGO FLEET, DORMAN LONG, CONSETT IRON CO LTD

Has the Steel been tested as required by the Rules? **YES.**

EQUIPMENT No 50644

LETTER *et*

ANCHORS. 2 B. 18.

Number of Certificate	Anchor	WEIGHT, EX. STOCK	WEIGHT OF STOCK	TEST, PER CERTIFICATE	WEIGHT REQUIRED BY TABLE 53	Description of Anchor	Makers	Where and when tested and Superintendent
43604	1st Bower	Cwts. qrs. lbs. 86 0 14	Cwts. qrs. lbs. ✓	Tons. cwt. qrs. lbs. 61 17 2 0	85 1/2 ✓	STOCKLESS	✓	SUNDERLAND 29-4-43, RJV.
43612	2nd "	86 0 0	✓	61 10 0 0	85 1/2 ✓	"	✓	" 1-5-43, RJV.
	3rd "							
	Collective weight	172 0 14	✓		171			
55953	Stream	25 0 16	✓	6 1 14 24 17 0 21	24 15/20	IRON STOCK	✓	CRADLEY HEATH 24-3-43 W.V.N.

CHAIN CABLES.

25

HAWSERS AND WARPS.

Number of Certificate	Length and size supplied	Test per Certificate	WEIGHT OF CHAIN CABLE	Length and size per Table 53	Description	Makers of Cables	Where and when tested, and Superintendent	Material	Length and size supplied	Breaking Test of Steel Wire	Length and size per Table 53
	Length. Diam.	Statutory. Breaking. Tons.	Supplied. Cwts. qrs. lbs. Per Rule.	Length. Diam.					Length. Cir.	Test of Steel Wire. Tons.	Length. Cir.
3350	240 5/8 2 1/16	116 1/2 163 3/8	791-1-7 989	240 2 1/16	STUD LINK	✓	J.A.R. NETHERTON 29-6-43	TOWLINE	90 5/2 84-4	✓	130 5/2
								HAWSERS & WARPS	100 2 3/4 15-2	✓	100 2 3/4
									2 75 2 3/4 15-2	✓	✓
									2 31 3 1/2 25-7	✓	✓
									2 15 9" MANILLA	✓	✓
									4 90 7"	✓	✓

EQUIPMENT AS PER LETTER 22-2-43 & 24-4-42.

Steering Gear, ~~Steam~~ HASTES ELECTRO-HYDRAULIC, TELE MOTOR GEAR 2 MOTORS. ✓ HELF-SHAFT MARTINEAU EL. HYDRAULIC TYPE 214 4 hams & 2 pump drive celi. No other means of steering required. See copies of letters 18 & 22.11.43 attached.

Boats 1 MOTOR LIFEBOAT 29-0-9-05-375 Steering Chains, Size and Test NONE. Windlass EMERSON WALKER (ELECTRIC) PROVISION MADE, BUT CARGO BATTENS NOT FITTED. STEEL 1/2 ROUNDS IN CARGO TANK.

Ceiling in Holds, thickness and material N° 2, 3, 5. HOLDS. ✓ T.T. 11/16 in cr. u. hatches see midship section as built. CARGO BATTENS, thickness, material and spacing BATTENS NOT FITTED. STEEL 1/2 ROUNDS IN CARGO TANK.

Cargo Hatchways. (Upper Deck) 2-6" C N° 1, 2, 3, 4. 3-6" C N° 5 & 6. Thickness of Hatches ON UPPER DECK 2 1/2" THICK. ✓

COAMINGS - 44" EXCEPT N° 3, 50" ✓

Size of No. 1 Hatchway (Forward) 20-3 x 16-0 No. 2 33-9 x 21-0 No. 3 52-3 x 21-0 No. 4 11-0 x 21-0 No. 5 35-9 x 21-0 No. 6 27-6 x 21-0

Number of Shifting Beams ~~and~~ N° 1: 3, N° 2: 6, N° 3: 9, N° 4: 1, N° 5: 6, N° 6: 4; UPPER DECK HATCHES. ✓

FAR FURNESS SHIPBUILDING CO LTD

Builder's Signature

DIRECTOR

GENERAL DECLARATION. It should be stated (a) whether the vessel (if not a motorship) is fitted for the carriage and burning of oil used as fuel YES. ✓

(b) whether the vessel, not being an oil tanker, is fitted for carrying oil as cargo YES, IN DEEP TANK MIDSHIPS. The positions in which oil is carried as fuel or cargo should be indicated, together with the flash point. FLASH POINT ABOVE 150°F. ✓

The vessel has been built in accordance with the approved plans, Secretary's letters and in general conformity with the Rules and Regulations for the class contemplated. ✓

All double bottom tanks, deep tank midships, oil fuel bunkers, tanks at sides of tunnel in after hold, fore and aft peak tanks, have been tested to rule requirements with satisfactory results. ✓

The bulkheads, tunnel, weather decks, 2nd & 3rd decks, watertight doors, and asdic space have been tested with water from a hose and found tight. ✓

The steering gear, windlass, winches, derricks and hand pumps have been tested under working conditions and found satisfactory. ✓

The Freeboard has been marked and cut in on vessels sides and verified. ✓

The workmanship and materials are good. ✓

Hatch covers fitted to all 'hoen deck hatch ways. See letter 22.11.43. ✓

The amount of Entry Fee £ 11 : 0 : 0 Fees applied for, 5/10/1943

Special Survey Fee.... £447 : 12 : 0 Received by me, 19

FREEBOARD. 20 : 0 : 0

Travelling Expenses, if any £ : : 19

SPECIFICATION. 111 : 18 : 0

State whether the Vessel has been built under Special Survey YES

I am of opinion the Vessel should be Classed * 100A1 WITH FREEBOARD CORRESPONDING TO A SUMMER MOULDED DRAFT OF 29-7 1/4". CARGO BATTENS NOT FITTED. FITTED FOR BURNING OIL FUEL, FLASH POINT ABOVE 150°F.

Signature H. B. Young. April B. Loner. Surveyor to Lloyd's Register of Shipping.

Certificate to be sent to MIDDOLESBROUGH Date of issue 4/1/44

Committee's Minute

Character assigned

+ 100A1

with freeboard

Carrying cargo oil F.P. above 150°F in midship deep tank

Fitted for oil fuel 10.43 F.P. above 150°F

Lloyd's A & CR

+ LMC 10.43 FD CL

2 WTB 490 lb (Spl. 475 lb)

DB 105 lb

Write H&E

M&H

E&S



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GENERAL REMARKS—(The Surveyor should state the Number of Report and Name of any Sister Vessel. Plans showing Vessel as built should be forwarded and a List of the Plans should be embodied.)

2, Brackets fitted under 2nd Deck in way of Mizzen Mast on Bhd N: 93.

1 3/4 x 3/8 M.S. Flats E.W. to underside of Promenade Deck from deckhouse side to side of ship (spaced about 3'-6" apart between transverses).

When on trial in Ties Bay 5th Oct. the bearing of the Rudder carrier seized up, the vessel returned to port and the carrier was removed, & found deeply scored from about 1 1/2" down from top and about 4 3/4" in depth. The Rudder Head was also scored in way. It was decided to send the carrier to the shop for further examination. The carrier was now examined at the shop in the presence of the carrier makers—Donkins, Royal Mail Super^{rs} and Furness S.B. & Co Ltd., Mr Purdy (Furness S.B.) suggested boring out and fitting white metal, but Donkins representative said this was not necessary owing to the amount of bearing being left after removing the scores. It was then agreed by all that the scored portion be turned out leaving a vertical bearing of 11" + 1 1/2" in place of 17 1/4" on the carrier and also to skim out the carrier to allow of 1000" clear all round and to dress up the rudder stock. This repair proved satisfactory and may in our opinion be accepted as a permanent repair. The question of taking the weight on bottom gudgeon or on the carrier was then discussed and it was decided to lift the rudder 1/32" and to fit a liner, as indicated on sketch, so that the weight was taken on the carrier. When the vessel was again on trial the rudder worked satisfactorily.

Particulars of Electric Welding:—

Oil Fuel Bunkers Frs 72-81 and Deep Tank Bulkheads Frs 81-93.
E.W. to tank top; Plating and Stiffs E.W.

Rudder,

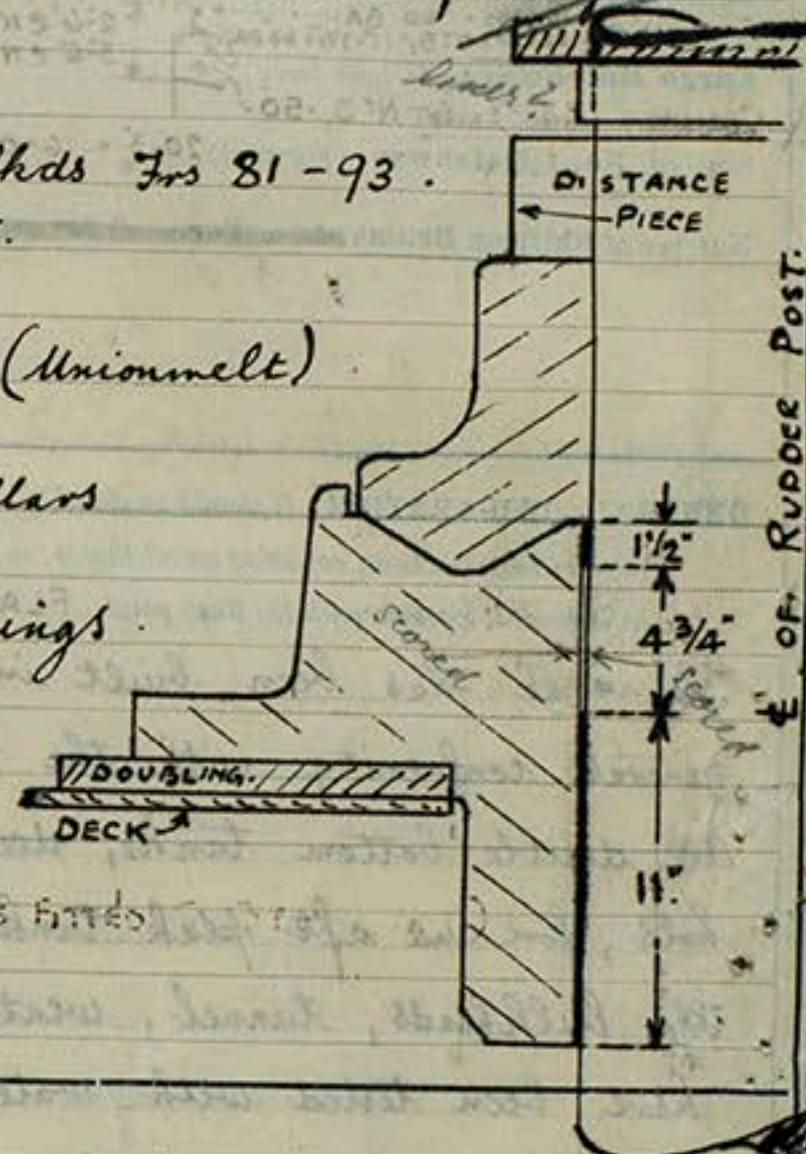
Promenade and Boat Decks, Deckhouses midships. (Unionmelt)

2nd & 3rd Deck Frame blocks.

Hatch side girder butts E.W. in way of hold pillars

continuous gusset plate E.W. to tank margin.

Upper deck butts and seams in way of beams.



SPECIAL NOTATIONS:—Either as part of the vessel's class or for record in the Register Book

WIRELESS, DIRECTION FINDING APPARATUS, ECHO SOUNDING, GYRO COMPASS, ASDIC.
8 BH. (COLL. TO W. DK, 7 TO 2nd DK). 7 DIVISIONAL W.T. BHOS IN UPPER TWEEN DKS.

CRUISER STERN.

Particulars of Drop Test of Cast Steel Anchors, viz.:—
Weight, Surveyor's Initials, Number of Certificate, Date of Test.

	1st Bower	2nd "	3rd "
SW - G - LBS	51 - 0 - 21	51 - 2 - 0	
A.E.G.	A.E.G.	A.E.G.	
N°	N° 4644	N° 4605	
8-12-42	27-11-42		

PARTICULARS FOR RECORD in the REGISTER BOOK.—Length of Poop 33 ft., R.Q.D. ✓ ft., Bridge ✓ ft., Forecastle 40 ft.
(in feet and tenths). When the Poop or Forecastle are joined to the B.D., this should be distinctly stated

No. and Material of Decks 2 DKS. (STL) & THIRD DK. (STL) EXCEPT IN N° 1 HOLD.

✓ V LENGTH 497'-7 1/2" FILLETS, & RIVETS COVERED.

Official No. 164863; Signal Letters

Is bottom of vessel coated with cement {YES & PEAKS, E.R. TANK if not give
& N° 1, 5, & 6. D.B. TANKS
(N° 2, 3, 4, DEEP TANK, & B.R. OIL FUEL BUNKERS — BARE)

particulars of composition. BILGES CEMENT WASHED, E.R. BILGE - RED LEAD; (N° 2, 3, 4, DEEP TANK, & B.R. OIL FUEL BUNKERS — BARE)

PARTICULARS OF WATER BALLAST.—

Where Fitted.	*Length. Feet.	Water Capacity. SALT. Tons.	Where Fitted.	*Length. Feet.	Water Capacity. SALT. Tons.
Double bottom, aft, N° 5 TANK.	68-9	152	Fore peak tanks, UPPER & LOWER	25-5	131
Double bottom, under Engines and Boilers,			After peak tanks, UPPER & LOWER.	16-0	186
Double bottom, if under Engines only, (F.W. 121 TONS) 38-6	35-9	117	Deep tank, MIDSHIPS (ABOVE DOUBLE BOTTOM)	30-3	663
Double bottom, if under Boilers only, (DEEP TANK. O.F.)			Deep tank, forward, N° 1 TANK OPEN TO BOTTOM	51-9	189
Double bottom, forward, N° 2, 3, & 4.	183-0	848	Other tanks, if fitted, N° 6 TANK AT TUNNEL SIDES (If necessary, furnish further information by sketch.)	59-6	220
Total length 290'-3"		1117			

* The wells are not to be included in the lengths of the tanks (See Circular No. 1284).

Order for Special Survey No. 1520

Date 29: 6: 42.

Dates of Surveys held while building

June 23, 24, 25, 26, 29, July 2, 10, Aug 11, 28, Sept 10, 21 Oct 5, 6, 7, 15, 16, 21, 26, 27, 29, Nov 2, 4, 5, 6, 10, 11, 17, 19, 23, 24, 27, 30, Dec 1, 2, 4, 7, 10, 11, 14, 19, 23, 1943 Jan 4, 8, 11, 13, 19, 21, 22, 24, 29, Feb 5, 9, 10, 16, 18, 22, 24, 25, 1944 Mar 1, 2, 4, 5, 8, 9, 10, 12, 15, 17, 18, 22, 23, 24, 25, 26, 30, 31, April 1, 2, 5, 6, 8, 9, 12, 13, 15, 16, 17, 19, 20, 21, 22, 23, 27, 28, 29, 30, May 3, 4, 5, 6, 7, 10, 11, 12, 14, 17, 18, 19, 20, 21, 31, June 1, 2, 3, 9, 10, 15, 16, 18, 21, 23, 29, July 2, 5, 6, 7, 9, 13, 14, 15, 16, 19, 21, 22, 30, Aug 3, 4, 5, 6, 9, 13, 16, 17, 18, 19, 20, 23, 24, 25, 26, 30, 31, Sept 1, 2, 3, 7, 13, 14, 16, 18, 20, 21, 22, 27, 28, Oct 5, 6, 7, 11, 14, 15, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Nov 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Dec 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1945 Jan 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Feb 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Mar 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Apr 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, May 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Jun 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Jul 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Aug 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Sep 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 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27, 28, 29, 30, 31, Jul 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Aug 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Sep 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Oct 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Nov 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Dec 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1949 Jan 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Feb 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Mar 1, 2, 3, 4, 5, 6, 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31, Aug 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Sep 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Oct 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Nov 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Dec 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1951 Jan 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Feb 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, Mar