

No. 1942

THE BRITISH CORPORATION FOR THE SURVEY
AND

REGISTRY OF SHIPPING.

CAPTAIN COOK

Report No. 1833 No. in Register Book 3143

EMPIRE BRENT

S.S. "LETITIA"

Makers of Engines THE FAIRFIELD S. & E. CO. LTD

Works No. 601

Makers of Main Boilers THE FAIRFIELD S. & E. CO. LTD

Works No. 601

Makers of Donkey Boiler NONE FITTED

Works No. ✓

MACHINERY.



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Report No. No. in Register Book

Received at Head Office

28th April 1925

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the ~~Single Triple~~ ~~Twin Quadruple~~ Screw TURBINE STEAMER

— " LETITIA " —

Official No.

Port of Registry

GLASGOW

Registered Owners

ANCHOR-DONALDSON, LTD

Engines Built by

THE FAIRFIELD SHIPBDS & ENGRS CO LTD

at

GOVAN, GLASGOW.

Main Boilers Built by

THE FAIRFIELD SHIPBDS & ENGRS CO LTD

at

GOVAN, GLASGOW.

Donkey

NONE FITTED

at

Date of Completion

6-4-25

First Visit

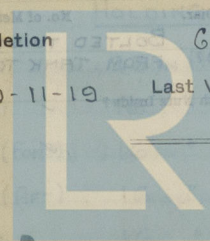
10-11-19

Last Visit

6-4-25

Total Visits

276



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RECIPROCATING ENGINES.

Works No.

No. of Sets

Description

No. of Cylinders each Engine

No. of Cranks

Diars. of Cylinders

Stroke

Cubic feet in each L.P. Cylinder

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.?

" " " each Receiver ?

Type of H.P. Valves,

" 1st I.P. "

" 2nd I.P. "

" L.P. "

" Valve Gear

" Condensers (Two)

BUILT

Cooling Surface 4350

sq. ft. EACH

Diameter of Piston Rods (plain part)

Screwed part (bottom of thread)

Material

Diar. of Connecting Rods (smallest part)

Material

" Crosshead Gudgeons

Length of Bearing

Material

No. of Crosshead Bolts (each)

Diar. over Thrd.

Thrds. per inch

Material

" Crank Pin " "

" Main Bearings

Lengths

" Bolts in each

Diar. over Thread

Threads per inch

Material

" Holding Down Bolts, each Engine SEE P. 3

Diar.

No. of Metal Chocks

Are the Engines bolted to the Tank Top or to a Built Seat?

BOLTED TO STOOLS BUILT FROM TANK TOP

Are the Bolts tapped through the Tank Top and fitted with Nuts Inside?

If not, how are they fitted?

Connecting Rods, Forged by

Piston

Crossheads,

Connecting Rods, Finished by

Piston

Crossheads,

Date of Harbour Trial

" Trial Trip

Trials run at

Were the Engines tested to full power under Sea-going conditions?

If so, what was the L.H.P.?

Revolvs. per min.

Pressure in 1st I.P. Receiver,

lbs., 2nd I.P.,

lbs., L.P.,

lbs., Vacuum,

ins.

Speed on Trial

If the Conditions on Trial were such that full power records were not obtained give the following estimated

data:—

Builders' estimated L.H.P.

Revolvs. per min.

Estimated Speed

HOLDING DOWN BOLTS

H.P. FEET

28 IN N^o, 1 1/2 DIA.

I.P. "

16 " 1 1/4 "

L.P. " (FOR^o)

16 " 2 " "

L.P. " (AFT)

16 " 1 1/2 " "

FLYWHEELS

16 " 1 1/4 "

TOTAL FOR BOTH ENGINES

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TURBINE ENGINES.

Works No.	601	Type of Turbines	BROWN - CURTISS
No. of H.P. Turbines	1 EACH ENGINE	No. of L.P.	1 EACH ENGINE
No. of L.P.	1 EACH ENGINE	No. of L.P.	1 EACH ENGINE
No. of Astern	2 EACH SHAFT	No. of Astern	2 EACH SHAFT
Are the Propeller Shafts driven direct by the Turbines or through Gearing?	THROUGH GEARING		
Is Single or Double Reduction Gear employed?	DOUBLE		
Diar. of 1st Reduction Pinion	H.P. & L.P. = 8'65"	Width	9 1/2" EACH HELIX
" 1st " Wheel	L.P. = 13'31"	Pitch of Teeth	6'97"
Estimated Pressure per lineal inch	505 Lbs.		
Diar. of 2nd Reduction Pinion	23"	Width	22 1/2" EACH HELIX
" 2nd " Wheel	98 3/4"	Pitch of Teeth	6'97"
Estimated Pressure per lineal inch	592 Lbs.		
Revol. per min. of H.P. Turbines at Full Power	3300	S.H.P.	1087 1/2 EACH H.P.
" " I.P. " "	3300	" " I.P.	1087 1/2 " I.P.
" " L.P. " "	2145	" " L.P.	2175 " L.P.
" " 1st Reduction Shaft	445		
" " 2nd " "	99		
" " Propeller Shaft	99		
Total Shaft Horse Power	8700		
Date of Harbour Trial	19-3-25		
" Trial Trip	30-3-25 TO 1-4-25		
Trials run at	FIRTH OF CLYDE		
Speed on Trial	17.192	Knots. Propeller Revols. per min.	101 S.H.P. 8700
Turbine Spindles forged by	CAMMELL, LAIRD & CO. LTD.		
" Wheels forged or cast by	CAMMELL, LAIRD & CO. LTD.		
Reduction Gear Shafts forged by	CAMMELL, LAIRD & CO. LTD.		
" Wheels forged or cast by	A & F. CRAIG, LTD.		

PISTONS BY ARMSTRONG, WHITWORTH & CO. LTD. MANCHESTER. ("VIBRAC" STEEL)
SLEEVES & CLAWS FOR COUPLINGS BY THE FIFE FORGE CO. LTD.
RIMS BY CAMMELL, LAIRD & CO. LTD.

THIS CONSISTS OF TWO INDEPENDENT SETS OF GEARED TURBINES OF THE BROWN - CURTISS TYPE, DESIGNED FOR A WORKING PRESSURE OF 210 LBS. PER SQ. INCH.

EACH SET OF TURBINES COMPRISES ONE H.P., ONE I.P. AND ONE L.P. AHEAD TURBINE, ARRANGED TO WORK IN SERIES, WITH AN H.P. ASTERN TURBINE INCORPORATED IN THE EXHAUST CASING OF THE I.P. AHEAD TURBINE, AND A L.P. ASTERN TURBINE WITH THE L.P. AHEAD TURBINE, CAPABLE OF GIVING TOGETHER ABOUT 80% OF THE AHEAD REVOLUTIONS.

EACH SET IS CONNECTED BY A FLEXIBLE CLAW COUPLING TO THE SHAFTING OF THE NODAL DRIVE, WHICH, BY MEANS OF DOUBLE REDUCTION HELICAL GEARING, DRIVES A COMMON GEARED WHEEL ON THE PROPELLER SHAFT.

THE GEARING IS PROPORTIONED TO GIVE ABOUT 99 R.P.M. AT THE PROPELLER, AND THE COMBINED INSTALLATION IS TO MAINTAIN ABOUT 8750 S.H.P. ON SEA SERVICE. THIS VESSEL DIFFERS FROM THE "ATHENIA" (SISTER SHIP) AS FOLLOWS:-

IT WAS ORIGINALLY INTENDED TO FIT SUPERHEATERS IN THIS VESSEL, BUT THE IDEA HAS BEEN ABANDONED.

THE BOILER TUBES ARE 2 1/2" DIA. INSTEAD OF 3" & HAVE BEEN INCREASED IN NUMBER; TWO VERTICAL ROWS ARE OMITTED FOR CIRCULATION PURPOSES. 4 MAIN STAYS ARE ALTERED.

STEAM PIPE LINE ALTERED DUE TO SUPERHEATERS BEING CUT OUT, BUT STEEL CHESTS RETAINED.

FOR SKETCH OF INSTALLATION SEE "ATHENIA'S REPORT BOOK."

TURBO-ELECTRIC PROPELLING MACHINERY.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafting

Are the Propeller Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Diarr. of 1st Reduction Pinion { Width Pitch of Teeth

1st Wheel

Estimated Pressure per lineal inch

Diarr. of 2nd Reduction Pinion { Width Pitch of Teeth

2nd Wheel

Estimated Pressure per lineal inch

Revs. per min. of Generators at Full Power

Motors

1st Reduction Shaft

2nd

Propellers at Full Power

Total Shaft Horse Power

Date of Harbour Trial

Trial Trip

Trials run at

Speed on Trial Knots. Propeller Revs. per min.

Makers of Turbines

Generators

Motors

Reduction Gear

Turbine Spindles forged by

Wheels forged or cast by

Reduction Gear Shafts forged by

Wheels forged or cast by

DESCRIPTION OF INSTALLATION

Type of Turbine

No. of Turbine

Diarr. of Turbine Shaft at bottom of Collar

At Air Coupling

Diarr. of Intermediate Shafting by Hole

Diarr. at Mid Length

Diarr. of Propeller Shaft by Hole

At Couplings

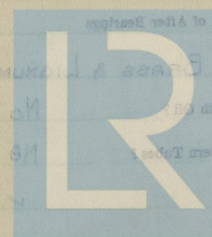
Are Propeller Shafts fitted with Continuous Brass Liners?

Diarr. over Liners

Of what Material are the After Bearings composed?

Are Means provided for lubricating the After Bearings with Oil?

Do the Propeller Shafts revolve in the After Bearings?



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SHAFTING.

Are the Crank Shafts Built or Solid?

No. of Lengths in each

Angle of Cranks

Diar. by Rule

Actual

In Way of Webs

" of Crank Pins

Length between Webs

Greatest Width of Crank Webs

Thickness

Least

Diar. of Keys in Crank Webs

Length

" Dowels in Crank Pins

Length

Screwed or Plain

No. of Bolts each Coupling

Diar. at Mid Length

Diar. of Pitch Circle

Greatest Distance from Edge of Main Bearing to Crank Web

Type of Thrust Blocks

MICHELL

No. " Rings

Diar. of Thrust Shafts at bottom of Collars

 $15\frac{3}{4}$ "

No. of Collars 2 (ONE WORKING, ONE SPARE)

" " Forward Coupling

 $15\frac{3}{4}$ "At Aft Coupling $15\frac{3}{4}$ "Diar. of Intermediate Shafting by Rule $14\frac{6}{4}$ " Actual 15" No. of Lengths 14No. of Bolts, each Coupling 9 Diar. at Mid Length $9\frac{1}{4}$ " Diar. of Pitch Circle 22"Diar. of Propeller Shafts by Rule 16.104 Actual $16\frac{3}{4}$ " At Couplings $16\frac{7}{8}$ "

Are Propeller Shafts fitted with Continuous Brass Liners?

YES

Diar. over Liners $18\frac{1}{2}$ " To $18\frac{5}{8}$ " Length of After Bearings 9'-3"

Of what Material are the After Bearings composed? BRASS & LIGNUMVITAE.

Are Means provided for lubricating the After Bearings with Oil?

No

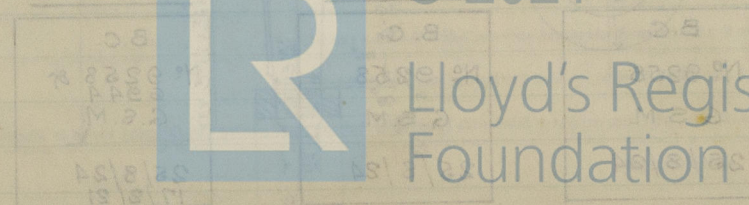
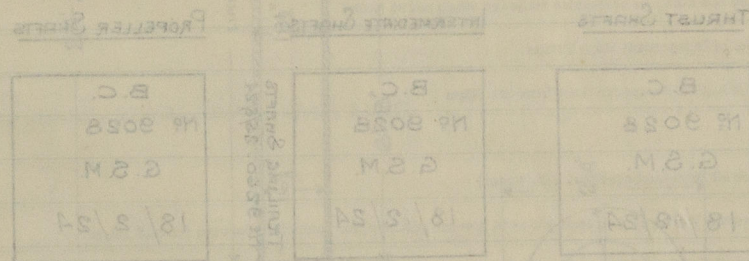
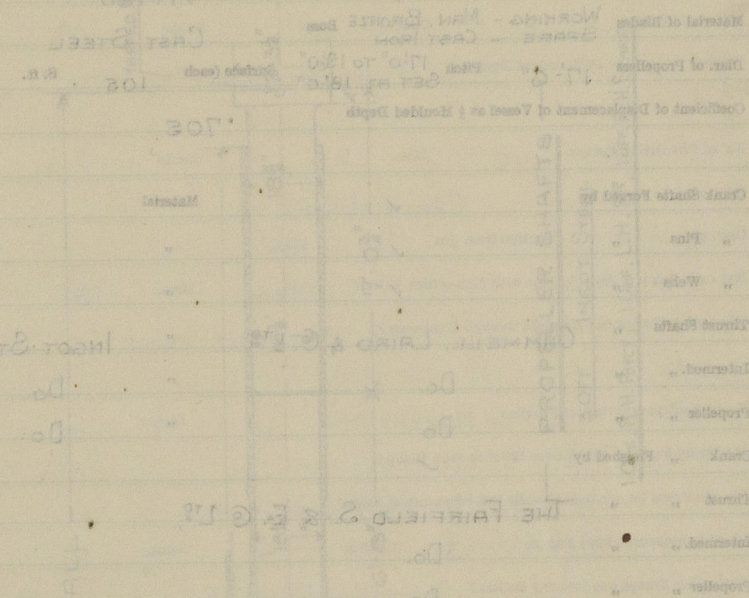
" " to prevent Sea Water entering the Stern Tubes?

No

If so, what Type is adopted?

✓

SKETCH OF CRANK SHAFT.



No. of Blades each Propeller	4	Fitted or Solid?	FITTED
Material of Blades	WORKING - MAN. BRONZE SPARE - CAST IRON	Boss	CAST STEEL
Diarr. of Propellers	17'-6"	Pitch	17'-0" to 19'-0" SET AT 18'-0"
		Surface (each	105 S. ft.
Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth			.705

Crank Shafts Forged by	✓	Material
" Pins	✓	"
" Webs	✓	"
Thrust Shafts	" CAMMELL, LAIRD & CO. LTD	" INGOT STEEL
Intermed. "	" Do.	" Do.
Propeller "	" Do	" Do.
Crank " Finished by	✓	
Thrust " "	" THE FAIRFIELD S. & E. CO. LTD	
Intermed. "	" Do.	
Propeller "	" Do.	

STAMP MARKS ON SHAFTS.

THRUST SHAFTS

B. C.
Nº 9028
G. S. M.
18/12/24

INTERMEDIATE SHAFTS

B.C.
No 9028
G.S.M.
18/2/24

TRAILING SHAFTS
No 9260 - 25/8/24.

PROPELLER SHAFTS

B. C.
No 9028
G. S. M.
18/ 2/24

GEAR WHEELS

B.C
Nº 9258
G. S. M.
25/8/24

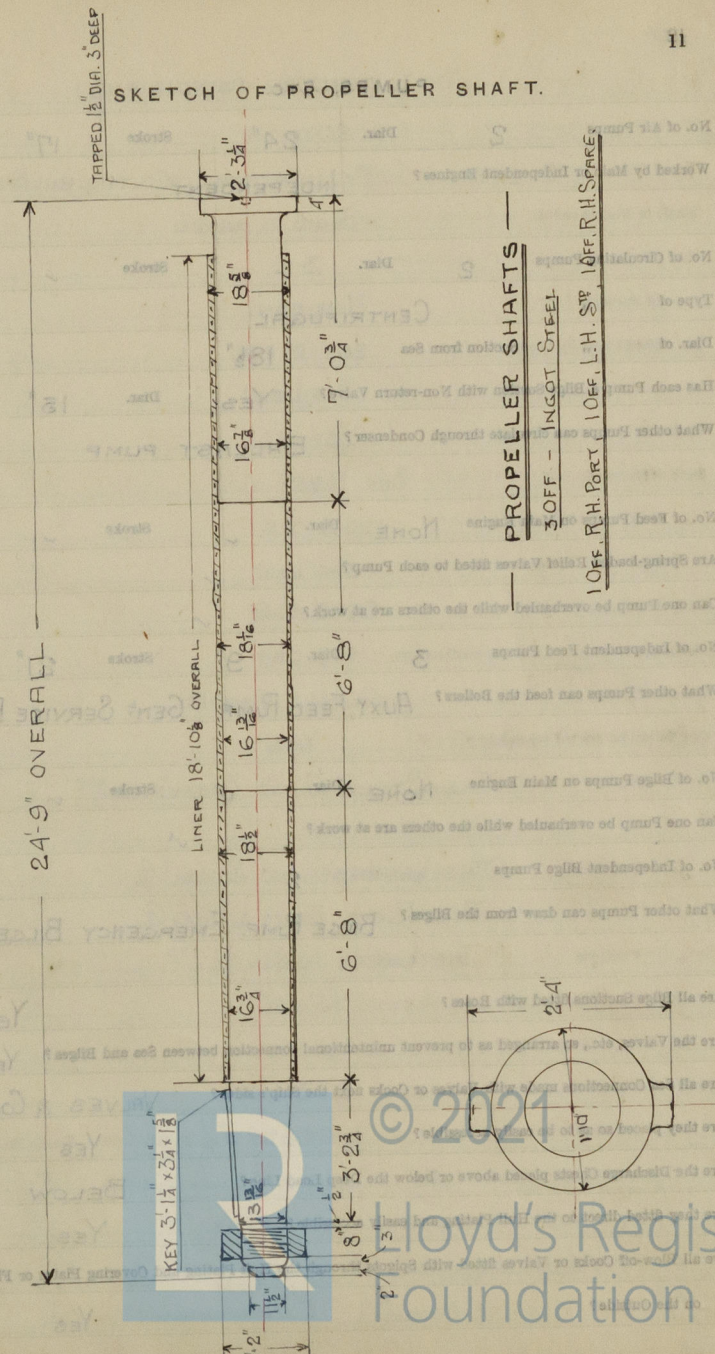
NODAL DRIVE

B. C.
No 9258
G. S. M.
25/8/24

ROTOR SPINDLES

B.C.
No 9258 &
6944
G.S.M.
25/8/24
17/2/21

SKETCH OF PROPELLER SHAFT.



BOILERS. (SINGLE END)

Works No. 601

No. of Boilers 2 Type CYLINDRICAL, MULTITUBULAR.

Single or Double-ended SINGLE ENDED

No. of Furnaces in each 3

Type of Furnaces MORISON

Date when Plan approved 20-12-23

Approved Working Pressure 210 Lbs.

Hydraulic Test Pressure 368 "

Date of Hydraulic Test SEE P. 25

" when Safety Valves set 19-3-25

Pressure at which Valves were set 210 Lbs

Date of Accumulation Test 20-3-25

Maximum Pressure under Accumulation Test 216 LBS

System of Draught CLOSED ASHPITS

Can Boilers be worked separately? YES

Makers of Plates THE STEEL CO. OF SCOTLAND, LTD

" Stay Bars THE LANARKSHIRE STEEL CO

" Rivets THE RIVET, BOLT & NUT CO.

" Furnaces THE LEEDS FORGE CO. LTD

Greatest Internal Diam. of Boilers 15'-10"

" " Length " 11'-6"

Square Feet of Heating Surface each Boiler 2538 $\frac{1}{2}$

" " Grate " " 64'625 $\frac{1}{2}$ (1 $\frac{1}{2}$ ON COAL, BUT NO FITTINGS)

No. of Safety Valves each Boiler 2 Rule Diam. Actual 3"

Are the Safety Valves fitted with Easing Gear? YES

No. of Pressure Gauges, each Boiler ONE No. of Water Gauges 2

" Test Cocks " NONE " Sallinometer Cocks ONE

BOILERS (DOUBLE END)

Works No. 601

No. of Boilers 3 Type CYLINDRICAL, MULTITUBULAR

Single or Double-ended DOUBLE ENDED

No. of Furnaces in each 6

Type of Furnaces MORISON

Date when Plan approved 20-12-23

Approved Working Pressure 210 Lbs.

Hydraulic Test Pressure 368 "

Date of Hydraulic Test SEE P. 25

" when Safety Valves set 19-3-25

Pressure at which Valves were set 210 Lbs.

Date of Accumulation Test 20-3-25

Maximum Pressure under Accumulation Test 216 LBS.

System of Draught CLOSED ASHPITS

Can Boilers be worked separately? YES

Makers of Plates THE STEEL CO. OF SCOTLAND, LTD

" Stay Bars THE LANARKSHIRE STEEL CO.

" Rivets THE RIVET, BOLT & NUT CO.

" Furnaces THE LEEDS FORGE CO. LTD

Greatest Internal Diam. of Boilers 15'-10"

" " Length " 22'-2"

Square Feet of Heating Surface each Boiler 5076 $\frac{1}{2}$

" " Grate " " 129'25 $\frac{1}{2}$

No. of Safety Valves each Boiler 3 Safety valves, 3 $\frac{1}{2}$ " Dia.

Are the Safety Valves fitted with Easing Gear? YES

No. of Pressure Gauges, each Boiler 2 Pressure gauges. 1 Water gauge each end.

" Test Cocks " 6 Test cocks. 1 Sallinometer cock.

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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? **MOUNTED ON PILLARS.**

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes? **PIPES**

Are these Pipes connected to Boilers by Cocks or Valves? **COCKS?**

Are Blow-off Cocks or Valves fitted on Boiler Shells? **VALVES**

No. of Strakes of Shell Plating in each Boiler **ONE**

„ Plates in each Strake **2**

Thickness of Shell Plates Approved **$1\frac{1}{2}$ "**

„ „ in Boilers **$1\frac{1}{2}$ "**

Are the Rivets Iron or Steel? **STEEL**

Are the Longitudinal Seams Butt or Lap Joints? **BUTT**

Are the Butt Straps Single or Double? **DOUBLE**

Are the Double Butt Straps of equal width? **NO**

Thickness of outside Butt Straps **$1\frac{3}{32}$ "**

„ inside „ **$1\frac{1}{32}$ "**

Are Longitudinal Seams Hand or Machine Riveted? **MACHINE**

Are they Single, Double, or Treble Riveted? **TREBLE**

No. of Rivets in a Pitch **5**

Diar. of Rivet Holes **$1\frac{1}{2}$ "** Pitch **$10\frac{1}{2}$ "**

No. of Rows of Rivets in Centre Circumferential Seams **✓**

Are these Seams Hand or Machine Riveted? **✓**

Diar. of Rivet Holes **✓**

No. of Rows of Rivets in Front End Circumferential Seams **2**

Are these Seams Hand or Machine riveted? **HAND**

Diar. of Rivet Holes **$1\frac{1}{2}$ "** Pitch **3'79"**

No. of Rows of Rivets in Back End Circumferential Seams **2**

Are these Seams Hand or Machine Riveted? **MACHINE**

Diar. of Rivet Holes **$1\frac{1}{2}$ "** Pitch **3'79"**

Size of Manholes in Shell **$16" \times 12"$**

Dimensions of Compensating Rings **$3'-2" \times 2'-10" \times 1\frac{7}{16}"$**

MOUNTED ON PILLARS

PIPES

COCKS

VALVES

3

2

$1\frac{7}{16}"$

$1\frac{7}{16}"$

STEEL

BUTT

DOUBLE

NO

$1\frac{3}{32}"$

$1\frac{1}{32}"$

MACHINE

TREBLE

5

$10\frac{1}{2}"$ Pitch

3

MACHINE

$4\frac{13}{32}"$ Pitch

2

FOR: END HAND

$1\frac{1}{2}"$ Holes

$3\frac{3}{4}"$ (F) Pitch

2

AFT END MACHINE

$1\frac{1}{2}"$ Holes

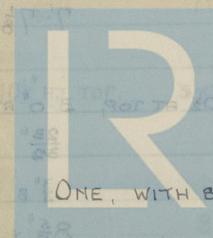
$3\frac{3}{4}"$ (F) Pitch

$16" \times 12"$

$3'-2" \times 2'-10" \times 1\frac{7}{16}"$

Thickness of End Plates in Steam Space Approved	$\frac{3}{16}$ "
" " " " " in Boilers	$\frac{3}{16}$ "
Pitch of Steam Space Stays	$16\frac{1}{2}" \times 19"$
Diar. " " " " Approved	3" Threads per Inch 6
" " " " " in Boilers	3" " 6
Material of " " "	STEEL
How are Stays Secured?	DOUBLE NUTS
Diar. and Thickness of Loose Washers on End Plates	✓
" " Riveted " " "	✓
Width " " Doubling Strips	✓
Thickness of Middle Back End Plates Approved	$\frac{31}{32}$ "
" " " " " in Boilers	$\frac{31}{32}$ "
Thickness of Doublings in Wide Spaces between Fireboxes	
Pitch of Stays at " " "	$8\frac{5}{8}" \times 8\frac{1}{2}"$
Diar. of Stays Approved	$\frac{11}{16}$ " Threads per Inch 9
" " " in Boilers	$\frac{11}{16}$ "
Material "	IRON
Are Stays fitted with Nuts outside?	YES
Thickness of Back End Plates at Bottom Approved	$\frac{31}{32}$ "
" " " " " in Boilers	$\frac{31}{32}$ "
Pitch of Stays at Wide Spaces between Fireboxes	$8\frac{1}{2}" \times 8\frac{5}{8}"$
Thickness of Doublings in " "	
Thickness of Front End Plates at Bottom Approved	1"
" " " " " in Boilers	1"
No. of Longitudinal Stays in Spaces between Furnaces	ONE

Thickness of End Plates in Steam Space Approved	$\frac{3}{16}$ "
" " " " " in Boilers	$\frac{3}{16}$ "
Pitch of Steam Space Stays	$16\frac{1}{2}" \times 19"$
Diar. " " " " Approved	3" Dia. 6 Threads.
" " " " " in Boilers	3" " 6 " "
Material of " " "	STEEL
How are Stays Secured?	DOUBLE NUTS
Diar. and Thickness of Loose Washers on End Plates	✓
" " Riveted " " "	✓
Width " " Doubling Strips	✓
Thickness of Middle Back End Plates Approved	✓
" " " " " in Boilers	✓
Thickness of Doublings in Wide Spaces between Fireboxes	
Pitch of Stays at " " "	$8\frac{1}{2}" \times 8\frac{5}{8}"$
Diar. of Stays Approved	$\frac{11}{16}$ " Dia. 8 Threads.
" " " in Boilers	$\frac{11}{16}$ " 9 " "
Material "	IRON
Are Stays fitted with Nuts outside?	YES
Thickness of Back End Plates at Bottom Approved	1"
" " " " " in Boilers	1"
Pitch of Stays at Wide Spaces between Fireboxes	$8\frac{1}{2}" \times 8\frac{5}{8}"$
Thickness of Doublings in " "	✓
Thickness of Front End Plates at Bottom Approved	1"
" " " " " in Boilers	1"
No. of Longitudinal Stays in Spaces between Furnaces	ONE, WITH SUPPORT, $3" \times \frac{1}{2}"$ FLAT BAR.



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Diar. of Stays Approved	3"	Threads per Inch	6
" " in Boilers	3"		6
Material "		STEEL	
Thickness of Front Tube Plates Approved	1"		
" " " in Boilers	1"		
Pitch of Stay Tubes at Spaces between Stacks of Tubes	7½"		
Thickness of Doublings in " " "	3"		
" Stay Tubes at " " "	3"		
Are Stay Tubes fitted with Nuts at Front End ?	YES		
Thickness of Back Tube Plates Approved	7/8"		
" " " in Boilers	7/8"		
Pitch of Stay Tubes in Back Tube Plates	7½" x 7½" & 10½"		
" Plain "	3¾"		
Thickness of Stay Tubes	3/8" & 5/16"		
" Plain "	9 L.S.G.		
External Diar. of Tubes	2½"		
Material "	IRON		
Thickness of Furnace Plates Approved	11/16"		
" " " in Boilers	11/16"		
Smallest outside Diar. of Furnaces	3'-11 3/8"		
Length between Tube Plates	7'-7 1/8"		
Width of Combustion Chambers (Front to Back)	2'-10 1/2" AT TOP, 3'-0" AT BOTTOM.		
Thickness of " " Tops Approved	23/32"		
" " " in Boilers	3/4" B.		
Pitch of Screwed Stays in C.O. Tops	8 5/8" x 9"		

3" Dia.	6 Threads
3" "	6 "
STEEL	
1"	
1"	
7½"	
3/8"	
YES	
7/8"	
7/8"	
7½"	
3¾"	
3/8" & 5/16"	
9 L.S.G.	
2½"	
IRON	
11/16"	
11/16"	
3'-11 3/8"	
7'-7 1/8"	
2'-10 1/2" AT TOP, 3'-0" AT BOTTOM.	
23/32"	
3/4" B.	
8 5/8" x 9"	

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Diar. of Screwed Stays Approved $1\frac{11}{16}$ " Threads per Inch 9
 " " " in Boilers $1\frac{11}{16}$ " 9
 Material " " IRON

Thickness of Combustion Chamber Sides Approved $\frac{23}{32}$ "
 " " " in Boilers $\frac{3}{4}$ "
 Pitch of Screwed Stays in C.O. Sides $8\frac{1}{2}$ "
 Diar. " " Approved $1\frac{11}{16}$ " Threads per Inch 9
 " " " in Boilers $1\frac{11}{16}$ " 9
 Material " " IRON

Thickness of Combustion Chamber Backs Approved $\frac{11}{16}$ "
 " " " in Boilers $\frac{11}{16}$ "
 Pitch of Screwed Stays in C.O. Backs $8\frac{1}{2}$ "
 Diar. " " Approved $2\frac{1}{8}$, $1\frac{7}{8}$, $1\frac{11}{16}$ " Threads per Inch 9
 " " " in Boilers $2\frac{1}{8}$, $1\frac{7}{8}$, $1\frac{11}{16}$ " 9
 Material " " IRON

Are all Screwed Stays fitted with Nuts inside C.O.? YES

Thickness of Combustion Chamber Bottoms $\frac{27}{32}$ "

No. of Girders over each Wing Chamber 5

" " " Centre " 3

Depth and Thickness of Girders $10\frac{1}{4}" \times \frac{3}{4}"$

Material of Girders STEEL

No. of Stays in each 3

No. of Tubes, each Boiler 284 PLAIN, 126 STAY, 410 TOTAL

Size of Lower Manholes $16" \times 12"$

$1\frac{11}{16}$ " Dia. 9 Threads.

$1\frac{11}{16}$ " " 9 "

IRON

$\frac{23}{32}$ "

$\frac{3}{4}$ " B.

$8\frac{1}{2}$ "

$1\frac{11}{16}$ "

$1\frac{11}{16}$ "

IRON

$\frac{11}{16}$ "

$\frac{11}{16}$ "

$8\frac{1}{2}$ "

$2\frac{1}{8}$, $1\frac{7}{8}$, $1\frac{11}{16}$ " Dia. 9 Threads.

$2\frac{1}{8}$, $1\frac{7}{8}$, $1\frac{11}{16}$ " " 9 "

IRON

YES

$\frac{27}{32}$ "

5

3

$10\frac{1}{4}" \times \frac{3}{4}"$

STEEL

3

572 PLAIN. 248 STAY. 820 TOTAL

$18" \times 12"$

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VERTICAL DONKEY BOILERS.

No. of Boilers Type

Greatest Int. Diar. Height

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Ends Thickness of Plates

Description of Seams in Boiler Crowns

Diar. of Rivet Holes Pitch Width of Overlap

Height of Firebox Crowns above Fire Grate

Are Firebox Crowns Flat or Dished?

External Radius of Dished Crowns Thickness of Plates

No. of Crown Stays Diar. Material

External Diar. of Firebox at Top Bottom Thickness of Plates

No. of Water Tubes Ext. Diar. Thickness

Material of Water Tubes

Size of Manhole in Shell

Dimensions of Compensating Ring

Heating Surface, each Boiler Grate Surface

SUPERHEATERS.

Description of Superheaters

Where situated?

Which Boilers are connected to Superheaters?

Can Superheaters be shut off while Boilers are working?

No. of Safety Valves on each Superheater

Diar.

Are " " fitted with Easing Gear?

Date of Hydraulic Test

Test Pressure

Date when Safety Valves set

Pressure on Valves

HYDRAULIC TESTS OF BOILERS.

— DOUBLE END —

PORT

CENTRE

STARBOARD

B.C. TEST
No 4717
T.P. 368 Lbs.
W.P. 210 Lbs.
G.S.M.
25/8/24

B.C. TEST
No 4715
T.P. 368 Lbs.
W.P. 210 Lbs.
G.S.M.
5/8/24

B.C. TEST
No 4713
T.P. 368 Lbs.
W.P. 210 Lbs.
G.S.M.
9/7/24

— SINGLE END —

PORT

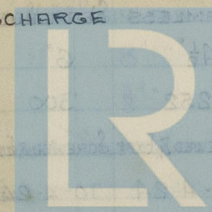
STARBOARD

B.C. TEST
No 4708
T.P. 368 Lbs.
W.P. 210 Lbs.
G.S.M.
19/6/24

B.C. TEST
No 4707
T.P. 368 Lbs.
W.P. 210 Lbs.
G.S.M.
10/6/24

OIL FUEL SUCTION & FILLING SYSTEM TESTED TO 30 LBS. 9-2-25

" " DISCHARGE " " " 400 " 23-2-25



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MAIN STEAM PIPES.

No. of Lengths	2	2	1*	1
Material	STEEL	STEEL	STEEL	STEEL
Brazed, Welded or Seamless	SEAMLESS	SEAMLESS	LAP WELDED	SEAMLESS
Internal Diam.	7½"	7½"	9½"	5"
Thickness	⅜"	⅜"	⅞"	276"
How are Flanges secured?	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.
Date of Hydraulic Test	13-3-24	18-3-24	10-4-24	10-4-24
Test Pressure	630 LBS.	630 LBS.	630 LBS.	630 LBS.
No. of Lengths	2	3	2	1
Material	STEEL	STEEL	STEEL	STEEL
Brazed, Welded or Seamless	SEAMLESS	SEAMLESS	SEAMLESS	SEAMLESS
Internal Diam.	6½"	4¾"	6½"	4¾"
Thickness	30"	252"	300"	252"
How are Flanges secured?	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.
Date of Hydraulic Test	13-3-24	7-4-24	10-4-24	10-4-24
Test Pressure	630 LBS.	630 LBS.	630 LBS.	630 LBS.
No. of Lengths	1	1	1	4
Material	STEEL	STEEL	STEEL	STEEL
Brazed, Welded or Seamless	SEAMLESS	SEAMLESS	SEAMLESS	SEAMLESS
Internal Diam.	4½"	4½"	6"	4½"
Thickness	252"	252"	300"	252"
How are Flanges secured?	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.
Date of Hydraulic Test	13-3-24	7-4-24	10-4-24	22-4-22
Test Pressure	630 LBS.	630 LBS.	630 LBS.	630 LBS.

* JOHN SPENCER, L^{ts}† MANNESMANN TUBE CO. || BRADFORD, L^{ts} BIRMINGHAM

MAIN STEAM PIPES

No. of Lengths	2	1	1 [†]	2
Material	STEEL	STEEL	STEEL	STEEL
Brazed, Welded or Seamless	SEAMLESS	SEAMLESS	LAP WELDED	SEAMLESS
Internal Diam.	4¾"	5"	9½"	6½"
Thickness	252"	276"	⅞"	300"
How are Flanges secured?	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.
Date of Hydraulic Test	22-4-24	20-5-24	3-7-24	10-9-24
Test Pressure	630 LBS.	630 LBS.	630 LBS.	630 LBS.
No. of Lengths	1	1	1*	1
Material	STEEL	STEEL	STEEL	STEEL
Brazed, Welded or Seamless	SEAMLESS	SEAMLESS	LAP WELDED	SEAMLESS
Internal Diam.	5"	8"	9½"	4¾"
Thickness	276"	⅜"	⅞"	252"
How are Flanges secured?	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.
Date of Hydraulic Test	22-4-24	5-6-24	5-9-24	25-9-24
Test Pressure	630 LBS.	630 LBS.	630 LBS.	630 LBS.
No. of Lengths	1	1†	2	1
Material	STEEL	STEEL	STEEL	STEEL
Brazed, Welded or Seamless?	SEAMLESS	LAP WELDED	SEAMLESS	SEAMLESS
Internal Diam.	8"	9½"	4¾"	4¾"
Thickness	⅜"	⅞"	252"	252"
How are Flanges secured?	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.	SCREWED & EXP.
Date of Hydraulic Test	20-5-24	3-7-24	5-9-24	1-12-24
Test Pressure	630 LBS.	630 LBS.	630 LBS.	630 LBS.
S STEWARTS & LLOYDS, L ^{ts} , COATBRIDGE.				REMAINDER BY THE CHESTERFIELD TUBE CO.

EVAPORATORS.

No. 2 Type VERTICAL Tons per Day 40 EACH
 Makers G. & J. WEIR, L^{TD} CATHCART
 Working Pressure SVs. SET @ 15 LBS. SHELL 30 LBS. TUBES 420 Date of Test 8-5-24
 Date of Test of Safety Valves under Steam 30-3-25

FEED WATER HEATERS.

No. ONE Type "MULTIFLOW" SURFACE No. 6355A
 Makers G. & J. WEIR, L^{TD}
 Working Pressure SHELL 50 LBS. TUBES 504 LBS. Date of Test 23-8-24

FEED WATER FILTERS.

No. Type GRAVITATION Size
 Makers
 Working Pressure Test Pressure Date of Test

MAIN STEAM PIPES. (CONT⁰)

No. of Lengths	1	1	1	2	1
Material	STEEL	STEEL	STEEL	STEEL	STEEL
Brazed, welded, Sless	SEAMLESS	SEAMLESS	SEAMLESS	SEAMLESS	SEAMLESS
Int. dia.	4 $\frac{3}{4}$ "	4 $\frac{3}{4}$ "	6 $\frac{1}{2}$ "	4 $\frac{3}{4}$ "	6 $\frac{1}{2}$ "
Thickness	.252"	.252"	.300"	.252"	.300"
How are flanges secured	SCREWED & EXP ⁰	SCREWED & EXP ⁰	SCREWED & EXP ⁰	SCREWED & EXP ⁰	SCREWED & EXP ⁰
Date of Hydraulic Test	2-9-1-25	2-2-25	5-2-25	5-2-25	9-2-25
Test pressure	630 LBS.	630 LBS.	630 LBS.	630 LBS.	630 LBS.

CONTINUED ON PAGE 44

LIST OF DONKEY PUMPS.

AIR PUMPS 2 IN No. "DUAL" G. & J. WEIR, L^{TD} No. 12" x 24" x 17"
 AUXY AIR PUMP 1 IN No. "Mono" Do. 12" x 22" x 14"
 MAIN FEED PUMPS 3 IN No. Do. 12" x 9" x 21"
 SUCTION:- FEED TANK.
 DISCHARGE:- BOILERS; THROUGH FEED HEATER
 AUXY FEED PUMP 1 IN No. G. & J. WEIR, L^{TD} 8" x 6" x 21"
 SUCTION
 DISCHARGE:- BOILERS.
 BALLAST PUMP 1 IN No. THOM. LAMONT & CO L^{TD} 10" x 12" x 12"
 SUCTIONS:- SEA. TANKS. BILGES.
 DISCHARGES:- OVERBOARD. M. & A. CONDENSERS. BALLAST TANKS. DISTILLER.
 MAIN CIRCULATING P/PS. 2 IN No. MATTHEW PAUL & CO L^{TD} 9 $\frac{1}{2}$ " x 9" x 18" Suct⁰
 SUCTION:- SEA. DISCHARGE:- MAIN CONDENSER.
 AUXY CIRCULATING P/P 1 IN No. MATTHEW PAUL & CO L^{TD} 6" x 5" x 8" Suct⁰
 SUCTION:- SEA. DISCHARGE:- AUX. CONDENSER.
 SANITARY PUMPS 2 IN No. THOM. LAMONT & CO L^{TD} 9" x 10" x 10"
 SUCTIONS:- SEA. MAIN & AUXY CONDENSER.
 DISCHARGES:- SANITARY & HOT WATER TANKS. OIL COOLER, ENGINE ROOM WATER SERVICE, DISTILLER.
 BILGE PUMPS 2 IN No. THOM. LAMONT & CO L^{TD} 9" x 10" x 10"
 SUCTIONS:- SEA. BILGE MAIN
 DISCHARGES:- DECK. OVERBOARD.
 GENERAL SERVICE PUMP 1 IN No. THOM. LAMONT & CO L^{TD} 12" x 8" x 12"
 SUCTIONS:- PEAK TANKS. SEA. BALLAST MAIN. FLOAT TANKS. E. R. HOSE. AUXY FEED RANGE.
 DISCHARGES:- PEAK TANKS. SANITARY TANK. DECK. OVERBOARD. E. R. HOSE.
 OIL COOLER WATER SERVICE PUMP 1 IN No. THOM. LAMONT & CO L^{TD} 9" x 11" x 10"
 SUCTION:- SEA.
 DISCHARGES:- OIL COOLERS. C. O. CONDENSER. WATER SERVICE IN ENG. R.
 REMAINDER BY THE REGISTERED

[CONTINUED ON PAGE 41]

SPARE GEAR

No. of Top End Bolts. No. of Bot. End Bolts. No. of Cylinder Cover Studs

" Coupling Bolts SEE BELOW.	" Main Bearing Bolts	" Valve Chest
" Junk Ring Bolts	" Feed Pump Valves 1 SET	" Bilge Pump Valves 3 SETS
" H.P. Piston Rings	" L.P. Piston Rings	" L.P. Piston Rings
" " Springs	" " Springs	" " Springs
" Safety Valve " { 1 For S.E. Boilers 3 " D.E. "	" Fire Bars -	" Feed Check Valves 1 SET
" Piston Rods	" Connecting Rods	" Valve Spindles
" Air Pump Rods	" Air Pump Buckets	" Air Pump Valves
" Cir. " SEE OPP. PAGE	" Cir. "	" Cir. "
" Crank Shafts	" Crank Pin Bushes	" Crosshead Bushes
" Propeller Shafts	" Propellers	" Propeller Blades 4
" Boiler Tubes 50	" Condenser Tubes { 50 MAIN 10 AUX	" Condenser Ferrules 200, WITH CORD PACKING.

OTHER ARTICLES OF SPARE GEAR:-

1 SET OF STUDS & NUTS FOR PROPELLER (2 BLADES)

1 " BOLTS " COUPLING, EA. SIZE (& REAMER)

10 " PADS FOR MICHELL MAIN THRUST BLOCK

TURBINES

$\frac{1}{40}$ SET OF EACH SIZE OF BLADING MATERIAL. 20 TUBES FOR OIL COOLER

1 " BLADING TOOLS 12 ASSORTED BRASS FINISHED BOLTS & NUTS.

1 " BEARING BUSHES FOR ONE ROTOR OF EACH SIZE FITTED. 50 IRON

1 " DITTO FOR ONE PINION SHAFT, EACH SIZE 100 " BOLTS & NUTS

1 " " " " GEAR " 24 THERMOMETERS

1 " PADS FOR ONE MICHELL TURBINE THRUST-BLOCK, EACH SIZE FITTED.

1 " CARBON PACKING RINGS FOR GLANDS OF ONE SET OF TURBINES

1 " SPRINGS FOR SAME

2 " BOLTS OR STUDS & NUTS FOR EACH PATTERN OF TURBINE GEAR WHEEL & PINION BEARING.

$\frac{1}{20}$ " BOLTS & NUTS FOR HORIZONTAL JTS. TURBINE CASINGS

$\frac{1}{20}$ " DO. FOR EACH GEAR CASE JOINT

MAIN FEED PUMPS

1 SET SUCT. & DEL. VALVES, SEATS & GUARDS FOR ONE PUMP

1 PUMP BUCKET WITH SET OF EBONITE RINGS

AUX. AIR PUMP

1 SET OF VALVES & GUARDS COMPLETE

FORCED LUB. PUMPS

1 PUMP BUCKET

1 SET S. & D. VALVES & SEATS FOR 1 PUMP

OIL FUEL SERVICE PUMP

1 SET SUCT. & DEL. VALVES & SEATS

OIL FUEL PRESSURE PUMPS

1 SET S. & D. VALVES & SEATS FOR 1 PUMP

MAIN CIRCULATING PUMPS.

1 IMPELLER & SPINDLE

1 CRANK SHAFT

1 VALVE SPINDLE

1 ECC. STRAP COMPLETE WITH BOLTS & NUTS

1 PISTON ROD " " " "

1 CON. ROD BOTTOM END BRASS " "

1 SET PISTON RINGS, FOR 1 ENGINE

BALLAST PUMPS

1 SET S. & D. VALVES & SEATS

GEN. SERVICE PUMP

1 SET S. & D. VALVES & SEATS

BILGE PUMP

1 SET OF RUBBER S. & D. V.S. FOR 2 PUMPS.

SANITARY PUMP

1 SET S. & D. V.S. FOR 1 PUMP

WATER SERVICE PUMP

1 SET S. & D. V.S. & SEATS

FRESH WATER PUMPS

1 SET S. & D. V.S. FOR 1 PUMP

FEED WATER FILTERS, Main & Aux.

$\frac{1}{2}$ SET CARTRIDGES & $\frac{1}{2}$ SET COVERING

EVAPORATORS

12 GAUGE GLASSES

1 SPARE VALVE FOR AUTOMATIC FEED

FORCED DRAUGHT FANS

1 SPARE ARMATURE

1 SET OF BUSHES FOR EACH MOTOR

BOILERS

1 SET BAFFLE PLATES (FIRE FRONTS) FOR D.E. BLR.

50 GAUGE GLASSES

OIL FUEL INSTALLATION

1 SET FILTERING MATERIAL FOR EA. SUCT. STRAINER

1 " " " " DISC " "

1 THERMOMETER FOR EACH FITTED

1 TUBE ELEMENT FOR EACH HEATER

24 BURNER BODIES. 24 CAPS.

24 NOZZLES. 24 DIAPHRAGMS.

1 FIREBRICK QUART. FOR AIR

1 DISTRIBUTOR FOR EACH FITTED

1 AUX. OIL HEATER WITH BURNER;

1 THERMOMETER & FLEXIBLE TUBING.

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REFRIGERATORS.

No. of Machines ONE Capacity of each

Makers PETER BROTHERHOOD

Description	Quantity	Unit	Value	Total
C. 07				

No. of Steam Cylinders, each Machine 2 No. of Compressors 2 No. of Cranks

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines

or Independently

System of Refrigeration CO₂

Insulation GRANULATED CORK

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated

Spaces ?

Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage?

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?

Date of Test under Working Conditions

(NOT UNDER BRITISH CORPORATION)

RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after hours.
1	60.0	60.0	10.0	0.0
2	60.0	60.0	10.0	0.0
3	60.0	60.0	10.0	0.0
4	60.0	60.0	10.0	0.0
5	60.0	60.0	10.0	0.0
6	60.0	60.0	10.0	0.0
7	60.0	60.0	10.0	0.0
8	60.0	60.0	10.0	0.0
9	60.0	60.0	10.0	0.0
10	60.0	60.0	10.0	0.0
11	60.0	60.0	10.0	0.0
12	60.0	60.0	10.0	0.0
13	60.0	60.0	10.0	0.0
14	60.0	60.0	10.0	0.0
15	60.0	60.0	10.0	0.0
16	60.0	60.0	10.0	0.0
17	60.0	60.0	10.0	0.0
18	60.0	60.0	10.0	0.0
19	60.0	60.0	10.0	0.0
20	60.0	60.0	10.0	0.0
21	60.0	60.0	10.0	0.0
22	60.0	60.0	10.0	0.0
23	60.0	60.0	10.0	0.0
24	60.0	60.0	10.0	0.0
25	60.0	60.0	10.0	0.0
26	60.0	60.0	10.0	0.0
27	60.0	60.0	10.0	0.0
28	60.0	60.0	10.0	0.0
29	60.0	60.0	10.0	0.0
30	60.0	60.0	10.0	0.0
31	60.0	60.0	10.0	0.0
32	60.0	60.0	10.0	0.0
33	60.0	60.0	10.0	0.0
34	60.0	60.0	10.0	0.0
35	60.0	60.0	10.0	0.0
36	60.0	60.0	10.0	0.0
37	60.0	60.0	10.0	0.0
38	60.0	60.0	10.0	0.0
39	60.0	60.0	10.0	0.0
40	60.0	60.0	10.0	0.0
41	60.0	60.0	10.0	0.0
42	60.0	60.0	10.0	0.0
43	60.0	60.0	10.0	0.0
44	60.0	60.0	10.0	0.0
45	60.0	60.0	10.0	0.0
46	60.0	60.0	10.0	0.0
47	60.0	60.0	10.0	0.0
48	60.0	60.0	10.0	0.0
49	60.0	60.0	10.0	0.0
50	60.0	60.0	10.0	0.0
51	60.0	60.0	10.0	0.0
52	60.0	60.0	10.0	0.0
53	60.0	60.0	10.0	0.0
54	60.0	60.0	10.0	0.0
55	60.0	60.0	10.0	0.0
56	60.0	60.0	10.0	0.0
57	60.0	60.0	10.0	0.0
58	60.0	60.0	10.0	0.0
59	60.0	60.0	10.0	0.0
60	60.0	60.0	10.0	0.0
61	60.0	60.0	10.0	0.0
62	60.0	60.0	10.0	0.0
63	60.0	60.0	10.0	0.0
64	60.0	60.0	10.0	0.0
65	60.0	60.0	10.0	0.0
66	60.0	60.0	10.0	0.0
67	60.0	60.0	10.0	0.0
68	60.0	60.0	10.0	0.0
69	60.0	60.0	10.0	0.0
70	60.0	60.0	10.0	0.0
71	60.0	60.0	10.0	0.0
72	60.0	60.0	10.0	0.0
73	60.0	60.0	10.0	0.0
74	60.0	60.0	10.0	0.0
75	60.0	60.0	10.0	0.0

Articles of Spare Gear for Refrigerating Plant carried on board:—

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AUXILIARY SWITCHBOARD "A"

Circuit.	Number of Lights.	Candle Power or Watts	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
CABINS & SHELTER Dk. Etc.	32 93	30 W. 40 W.	42.6	19/064	710.	83.0	600 MEGOHMS
Do. BRIDGE Dk.	137 131	16 C.P. 30 W. 40 W. HOT PLATE	76.2	19/083	762	118.0	D°
PUBLIC Rm. PROM. Dk.	109 99 11	20 W. 30 W. 40 W. VAC. SOCKET	66.0	19/064	1100	83.0	D°
1ST CL. DINING SALOON	123 82	20 W. 30 W. 40 W.	50.1	19/064	833	83.0	D°
CARGO CLUSTERS, Aft	18 3	32 C.P. 300 W.	26.5	19/052	662	64.0	D°

AUXILIARY SWITCHBOARD "B"

3RD CL. ACCOM. FOR	147	30 W.	40.1	19/064	668	83.0	D°
STORES, GALLEYS, & CREWS QRS. SHEL. Dk. & NAVIGATION CIRCUITS	11 50	16 C.P. 30 W.	19.2	7/064	853	46.0	D°
CABINS FOR. BRIDGE Dk.	127 104	5 C.P. 16 C.P. 30 W. FAN SOCKETS	72.8	19/072	973	97.0	D°
CARGO CLUSTERS, FOR	84 4	32 C.P. 40 W. 300 W.	47.5	19/064	792	83.0	D°
			35.3	19/052	882	64.0	D°

EMERGENCY SWITCHBOARD

ENGINE & BOILER Rms	120 131 6	5 C.P. 16 C.P. 30 W. 300 W.	68.5	19/072	913	97.0	D°
ENG. OFFICERS ACCOM.	124 15	30 W. 40 W. FAN SOCKETS	26.8	19/052	670	64.0	D°
NAV. OFFICERS QRS. & SOUNDING MACHINE	16 34	5 C.P. 16 C.P. 30 W. FAN SOCKETS	43.7	19/052	1097	64.0	D°
POLICE, Aft.	85 36 13	30 W. 40 W. FAN SOCKETS	42.8	19/064	713	83.0	D°
POLICE, For.	4 82 13 22	16 C.P. 30 W. 40 W.	41.1	19/052	1027	64.0	D°
NAVIGATION	18 6 9	24 C.P. 5 C.P. 16 C.P. 30 W. 40 W.	18.8	19/052	470	64.0	D°
BOAT Dk. ILLUMINATION	16 18	16 C.P. 30 W. 100 W.	21.2	19/052	530	64.0	D°

ELECTRIC LIGHTING.

Installation Fitted by

THE FAIRFIELD S. & E. CO. LTD.

No. and Description of Dynamos

2 MAIN TURBO GENERATORS & 1 EMERGENCY OIL DRIVEN GEN^{rs}

Makers of Dynamos

MAIN DYNAMOS: W. H. ALLEN, SONS & CO. LTD.
EMERGENCY DOCapacity "MAIN" 2290 Amperes, at 110 Volts, 650 Revols. per Min.
"EMERGENCY" 329 750

Current Alternating or Continuous

CONTINUOUS

Single or Double Wire System

DOUBLE WIRE SYSTEM

Position of Dynamos

MAIN: - ENGINE ROOM Aft, FLATS.
EMERGENCY: - EMERGENCY DYNAMO ROOM, BOAT DECK.

Main Switch Board

ENGINE ROOM Aft, FLATS, WITH MAIN DYNAMOS.

No. of Circuits to which Switches are provided on Main Switch Board

14

Particulars of these Circuits:-

Circuit.	Number of Lights.	Candle Power or Watts	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
ENG. RM. MOTORS	-	-	-	-	-	-	-
3RD CL. ACCOM. Aft	209	30 W.	57.2	19/064	959	83.0	600 MEGOHMS
AUX. BOARD Aft	10 82	40 W. 30 W. 32 C.P.	-	-	-	-	-
STEWARDS QRS. Aft	3 3 FAN SOCKETS	5 C.P.	26.4	19/052	660	64.0	D°
3RD CL. SALOON	2 35	30 W. 40 W.	13.3	7/052	917	37.0	D°
STEERING MOTORS	-	-	-	-	-	-	-
FORCED DRAUGHT FAN. MID	-	-	-	-	-	-	-
D° PORT	-	-	-	-	-	-	-
D° STE	-	-	-	-	-	-	-
EMER. BOARD	-	-	-	-	-	-	-
CHANGE OVER SWITCH ON	-	-	-	-	-	-	-
AUX. SWITCHBOARD FOR	-	-	-	-	-	-	-
TURNING MOTORS	-	-	-	-	-	-	-
GALLEY MACHINERY	-	-	-	-	-	-	-
SPARE	-	-	-	-	-	-	-

Total No. of Lights 2007

No. of Motors driving Fans, &c. 48

No. of Heaters 6

Current required for Motors and Heaters

2791.7 AMPS.

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Are Out-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

On Aux. " " each Auxiliary Circuit

Wherever a Cable is reduced in size

To each Lamp Circuit

To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted

Are the Fuses of Standard Sizes ?

Are all Switches and Cut-outs constructed of Non-inflammable Material?

Are they placed so as to be always and easily accessible?

Smallest Single Wire used, No. 3/029 S.W.G., Largest, No. 127/103 S.W.G.

How are Conductors in Engine and Boiler Spaces protected? LEAD COVERED, ARMOURD & BRAIDED
 „ Saloons, State Rooms, &c., „ { PUBLIC ROOMS :- VUL. I.R. IN TUBING
 CABINS :- LEAD COVERED.

What special protection is provided in the following cases?—

- (1) Conductors exposed to Heat or Damp LEAD COVERED, ARMoured & BRAIDED.
- (2) " " passing through Bunkers or Cargo Spaces DITTO.
- (3) " " Deck Beams or Bulkheads { W.T. DECK TUBES & LEAD BUSHED
OR W.T. BULKHEAD GLANDS

is unimpaired? No JOINTS

Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces?

Are all Hull Connections for Single-Wire Systems made with Screws of large Surface? ☒

Are the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously affected by them? YES

Have Tests been made to prove that this condition has been satisfactorily fulfilled? YES

Has the Insulation Resistance over the whole system been tested? No

What does the Resistance amount to? ✓ Ohms

Is the Installation supplied with a Voltmeter? YES

" " " an Ampere Meter? YES

Date of Trial of complete Installation 31ST MARCH, 1925 Duration of Trial 12 Hours

Have all the requirements of Section 42 been satisfactorily carried out?

ALL EXCEPT INSULATION TESTS

GENERAL CONSTRUCTION.

Have the Machinery and Boilers been constructed in accordance with the requirements of the Rules and the

Approved Plans?

YES

If not, give details of the points of difference, and state when these were sanctioned by the Chief

Surveyor.

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and

trustworthy?

YES

Is the Workmanship throughout thoroughly satisfactory?

YES

The above correctly describes the Machinery of the S.S.

as ascertained by me from personal examination

"LETITIA"

Geo. S. Macfarlane
Engineer Surveyor to the British Corporation for the
Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

£ s. d.

H.S. Sq. ft. : :

G.S. " : :

DONKEY BOILERS.

H.S. Sq. ft. : :

G.S. " : :

£ : :

ENGINES.

L.P.O. Cub. ft. : :

£ : :

Testing, &c. ... : :

£ : :

Expenses ... : :

Total ... £ : :

It is submitted that this Report be approved,

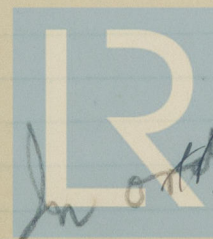
Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the

6th May 1925

Fees advised

Fees paid



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Secretary.

GENERAL CONSTRUCTION

LIST OF DONKEY PUMPS [CONTINUED]

FORCED LUBRICATION PUMPS 3 IN N^o G. & J. WEIR, L^{td} 8' x 9' x 18"
 SUCTION:- OIL DRAIN TANKS.
 DISCHARGES:- BEARINGS & GEAR SPRAYERS THROUGH FILTERS & COOLERS.

FRESH WATER PUMPS 2 IN N^o THOM. LAMONT & CO L^{td} 4½' x 6' x 6"
 SUCTIONS:- FRESH WATER IN DOMESTIC TANKS. DISTILLER DRAIN TANK.
 DISCHARGES:- SUPPLY TANK ON DECK. SUPPLY PIPE TO GALLEYS, LAVATORIES &c

HYDRAULIC PUMP 1 IN N^o G. & J. WEIR, L^{td}
 FOR STONE-LOYD W. T. DOORS.

OIL FUEL TRANSFER PUMP

REFRIGERATOR CIRC^s P/P. 1. OFF. SUCTION: SEA
 DISCHARGE

BRINE PUMPS



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MAIN STEAM PIPES [CONT^d FROM P. 28]

N ^o . of Lengths	1	1	1	2
Material	STEEL	STEEL	STEEL	STEEL
Brazed, welded, seamless	SEAMLESS	SEAMLESS	SEAMLESS	SEAMLESS
Internal dia.	4½"	7½"	7½"	8"
Thickness	252"	11/32"	1/32"	375"
How are flanges secured?	SCREWED & EXP ^d	SCREWED & EXP ^d	SCREWED & EXP ^d	SCREWED & EXP ^d
Date of Hydraulic Test	12-2-25	18-2-25	19-2-25	21-2-25
Test Pressure.	630 LBS.	630 LBS.	630 LBS.	630 LBS.

Refitted as Hospital ship, Oct. 1944.

Turbo generator sets renewed —

3- 300KW, 120V, 2500α, 1200 RPM

6p. Stabilized shunt wound

The General Electric Co. Type MPC.

3- 450 HP Type E.A. Perry Steam Turbines —

4750 RPM - 14½/16" steam to 20/16" back press.



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