

No. 1407

TRANSFERRED TO:
L. R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1302 No. in Register Book 2353
~~2174~~

*See 1302 War Magpie
" " " Lark*

4
5

S.S. **URBINO.**
SS "KEELUNG." Now Hellenic Trader
Makers of Engines **EARLES S & E. CO LTD**

6

SS. "SABOR."
Works No. **635. 636. 638.**

Makers of Main Boilers **EARLES S & E. CO LTD**

Works No. **635. 636. 638.**

Makers of Donkey Boiler ✓

Works No.

✓ TRANSFERRED TO:
L. R. SYSTEM

MACHINERY.

*Noted in respect of
Electrical Installation.*

*J.S.
11.9.51*

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Foundation

002127-002131-0193

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. No. in Register Book

Received at Head Office

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the SS "URBINO."
S.S. "KEELUNG."
S.S. "SABOR".

Port of Registry HULL. LONDON.

Registered Owners ELLERMAN'S WILSON LINE LTD G35
ELLERMAN & BUCKNALL STEAMSHIP CO LTD 636.
ROYAL MAIL STEAM PACKET CO 638

Surveyor's District HULL.

Date of Completion of Engines 6.1919 10/1919.

" " Main Boilers 6.1919 10/1919.

" " Donkey " ✓

Trial Run at KING GEO V DOCK. Date 26.6.19

First Visit 13.5.18 Last Visit 3.7.19.

Total Number of Visits 100.

TRIAL RUN IN RIVER HUMBER. DATE 2.10.19

FIRST VISIT. 16-9-18 LAST VISIT 9-10-19.

TOTAL NO OF VISITS. 111.

TRIAL RUN IN HUMBER. DATE 19-4-20.

FIRST VISIT 26-11-18 LAST VISIT 20-4-20.

TOTAL NO OF VISITS. 137.

SKETCHES.

Crank Shaft.

B.C.
N^o 5432
G.H.B.
9.12.18

Crank Shaft.
636.

B.C.
N^o 5564
G.H.B.
22.1.19

Crank Shaft
638

B.C.
N^o 3978
G.H.B.
5.5.19

Thrust Shaft.

B.C.
N^o 5432 594
G.H.B.
13.12.18.

Thrust Shaft.
636

B.C.
N^o 5575
G.H.B.
5.2.19

Thrust Shaft
638.

B.C.
N^o 5978
G.H.B.
1.5.19.

SHAFTING.

Are Crank Shafts Built? Yes. No. of Lengths in each 1 Angle of Cranks 120°
 Diar. of Crank Shafts by Rule Actual 14 $\frac{3}{4}$ Diar. in Way of Webs 14 $\frac{3}{4}$
 Makers of " Darlington Forge Co. Material Steel
 Diar. of Crank Pins 14 $\frac{1}{2}$ Diar. in Way of Web 14 $\frac{1}{2}$
 Makers of " Darlington Forge Co. Material Steel
 Width across Crank Webs at Centre of Shaft 28" Thickness 9"
 " " " " Crank Pins 28"
 " " " " Narrowest part 1' 10 $\frac{1}{2}$ "
 Makers of Crank Webs Darlington Forge Co. Material Steel
 Diar. or Breadth of Keys in Crank Webs 2 $\frac{1}{2}$ " Length 6"
 " of Dowel Pins in Crank Pins 1 $\frac{1}{4}$ " Length 4" Screwed or Plain Plain
 No. of Bolts in each Coupling 6 Diar. at Mid Length 3 $\frac{5}{8}$ " Diar. of Pitch Circle 20 $\frac{1}{2}$ "
 Material of Coupling Bolts Steel
 Crank Shafts Finished by Darlington Forge Co.
 Greatest Distance from edge of Main Bearing to Crank Web $\frac{1}{4}$ "

Description of Thrust Blocks Cast iron with adjustable shoes.
 Number " " Rings 8.

Diar. of Thrust Shafts by Rule Actual (at bot. of Collars) 14 $\frac{3}{4}$ Over Collars 2' 1"
 " " at Forward Coupling 14 $\frac{1}{2}$ After Coupling 14 $\frac{1}{2}$
 No. of Thrust Collars 8 Thickness 2 $\frac{1}{2}$ " Distance apart 4 $\frac{1}{2}$ "
 Thrust Shafts Forged by Darlington Forge Co. Material Steel
 " Finished by " "
 Diar. of Intermediate Shafting by Rule Actual 13 $\frac{1}{2}$ "
 No. of Lengths, each Engine 6 No. of Tunnel Bearings 6
 Diar. of Bearings 14 $\frac{1}{2}$ " Length 1' 6 $\frac{3}{4}$ " Distance apart About 20' 0"

No. of Bolts, each Coupling 6 Diar. at Mid Length $3\frac{7}{8}$ Diar. of Pitch Circle $20\frac{1}{2}$
Intermediate Shafts Forged by Darlington Forge Material Steel
" " Finished by

Diarr. of Propeller Shafts by Rule Actual $15\frac{1}{2}$ " At Couplings $14\frac{1}{2}$ "

Are Propeller Shafts fitted with Continuous Brass Liners? Continuous

Diarr. over Liners $17" \times 17\frac{1}{2}"$ Length of After Bearings $5'-0\frac{1}{2}"$

Of what Material are the After Bearings composed? Brass with Rignum Vitae

Distance from After Bearing in Stern Tube to nearest Tunnel Bearing $5'-10\frac{3}{4}"$

Are the After Bearings lubricated with Oil or Sea Water? Water

What means are adopted to prevent Sea Water entering the Stern Tubes? None

Propeller Shafts Forged by Darlington Forge Material Steel

„ „ Finished by Life Forge & Co. „

„ „ Life Forge & Co.

No. of Propellers 1 Diar. 18' 3" Pitch 16' 6" 16' 9"

" Blades, each Propeller 4 Fitted or Solid Fitted.

Material of Blades Mang. Bronze. Boss Cast Iron.

Surface, each Propeller 98 \$ 104 Rule Diar. of Crank Shaft =

Coefficient of Displacement of Vessel at $\frac{1}{4}$ Moulded Depth

SKETCHES.

620, 600, 624, 626, 622, 598.

Tunnel shafts.

BC.
Nº 5432
G.H.B.
9.1.18/18.12.18

B.C.
Nº 5575
G.A.B.
26.2.19/22.2.19
3.3.19/5.2.19

BC.
Nº 5978
GHB
1-5-9

676, 680, 678, 630, 654, 674.
Tunnel shafts. 636.

Tunnel Shafts 638

B. C.
N^o 3488
J. L
29.11.18

Professor shaft.


B.C.
Nº 6131
R.S.
18.7.19.

Profeller Shaft 636.

BC.
5484
A1
25:10-19

Propeller shaft 638

BC.
No. 6295
GHB
29-10-19



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TURBINE ENGINES.

Type

No. of H.P. Turbines

No. of L.P. Turbines

No. of Astern „

How arranged

Revol. per Min.

Horse Power

Diar. of H.P. Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of H.P. Turbine Casings

Lengths of Blades in H.P. Turbines

No. of Rows of Blades of each Length

Pitch of „ „ „

Diar. of L.P. Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of L.P. Turbine Casings

Lengths of Blades in L.P. Turbines

No. of Rows of Blades of each Length

Pitch of „ „ „

Diar. of Astern Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of Astern Turbine Casings

Lengths of Blades in Astern Turbines

No. of Rows of Blades of each Length

Pitch of „ „ „

Diar. of Turbine Spindles

Length of Bearing

No. of Thrust Collars on each Spindle

Thickness

Distance apart

Diar. of Spindles at Bottom of Collars

Diar. over Collars

Spindles Forged by

Material

„ Finished by

SKETCHES.



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SKETCHES.

SKETCHES.



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PUMPS, ETC.

No. of Air Pumps *One* ✓ Diar. *24"* ✓ Stroke *24"* ✓
 Type of " *Edward* ✓
 Diar. of Air Pump Rod *3 3/4"* ✓ Material *Muntz metal* ✓
 How are Air Pumps Worked? *from H.P. engine* ✓
 No. of Centrifugal Circulating Pumps *One* ✓ Maker *H. Watson Newcastle* ✓
 " Reciprocating " " ✓ Diar. ✓ Stroke ✓
 Diar. of Circulating Pump Rod *Impeller shaft 3 1/2"* ✓ Material *Brass* ✓
 How are Circulating Pumps Worked? *Direct Coupled Independent Engine* ✓
8" dia. x 6" stroke ✓
 Diar. of Circulating Pump Suction from Sea *13"* ✓
 Has each Circulating Pump a Bilge Suction with Non-return Valve? *Yes* ✓ Diar. *8"* ✓
 No. of Feed Pumps on each Engine *2* ✓ Diar. *4"* ✓ Stroke *24"* ✓
 Where do they pump from? *Holwater* ✓
 " " discharge to? *Boilers & Heater* ✓
 Are Spring-loaded Relief Valves fitted to each Pump? *Yes* ✓
 Can one Pump be overhauled while the others are at work? *Yes* ✓
 No. of Bilge Pumps on each Engine *2* ✓ Diar. *4"* ✓ Stroke *24"* ✓
 Where do they pump from? *Tanks & bilges, one only from sea* ✓
 " " discharge to? *Overboard & deck* ✓
 Can one Pump be overhauled while the others are at work? *Yes* ✓
 No. of Bilge Injections connected to Condensers *One* ✓ Diar. *8"* ✓
 Are all Bilge Suctions fitted with Roses? *Yes* ✓
 Are the Valves, Cocks, and Pipes so arranged as to prevent unintentional connection between Sea and
 Bilges? *Yes* ✓

Are all Sea Connections made with Valves or Cocks fitted direct to the Hull Plating? *Yes* ✓
 Are they placed so as to be easily seen and accessible? *Yes* ✓
 Are the Discharge Chests placed above the Deep Load Line? *No* ✓ *Yes* ✓ *Yes* ✓
Main discharge which is below water
 Are they fitted direct to the Hull Plating and easily accessible? *Yes* ✓
 Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or
 Flanges on the outside? *Yes* ✓

Which condenser fitted as in 634



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BOILERS.

Boilers made by

Earle & Co. Ltd. ✓✓

at

Stur. ✓✓

Works No.

635 636. 638.

Date when Plan approved

3.5.18. 9.5.18. 9.5.18.

Boiler Plates, Iron or Steel

Steel ✓✓

Makers of Shell Plates

J. Spencer & Co. ✓✓

Internal Plates

Furnaces

Made by Leeds Forge Co. finished by John Brown & Co. ✓✓

Stay Bars

Salmon & Sons & Spencer. ✓✓

Rivets

Rivet Bolt & Nut Co. ✓✓

Material tested by (B.C., B.T., etc.)

B.C. ✓✓

No. of Boilers

3. ✓✓

Single or Double-ended

Single ended. ✓✓

No. of Furnaces, each Boiler

3. ✓✓

Type of Furnaces

Deighlon Section. Cowley Stephen East. ✓✓

Approved Working Pressure

180 lbs. 180 lbs. 180 lbs. ✓✓

Hydraulic Test Pressure

360 lbs. 360 lbs. 360 lbs. ✓✓

Date of Hydraulic Test

Port. 23/12/18 Start. 24/12/18 Centre 14/3/19. ✓✓

when Safety Valves set

20.6.19. 16.9.19. 17.4.20. 13.11.19. ✓✓

Pressure on Valves

185 lbs. 185 185 32.11.19. ✓✓

Date of Steam Accumulation Test

20.6.19. 16.9.19. 17.4.20. ✓✓

Max. Pressure under Accumulation Test

189 lbs. 190 lbs. 190 lbs. ✓✓

System of Draught

Howden Closed ashpit. ✓✓

Can Boilers be worked separately?

Yes. ✓✓

Greatest inside Diam. of Boilers

15' 6" ✓✓

Length

11' 6" ✓✓

Square Feet of Heating Surface, each Boiler

2556 # ✓✓

Grate

63.3 # ✓✓

BCTEST
No 2779
360 lbs
GAN
23.12.18

Port. Boiler
635.

BCTEST
No 2780
360 lbs
GAN
14.12.18

Starb. Boiler

BCTEST
No 2781
360 lbs
GAN
14.3.19

Centre Boiler.

BCTEST
No 2782
360 lbs
GAN
25.6.19

3. Boilers
636.

BCTEST
No 2784
360 lbs
GAN
13.11.19

Port & Starb.
Boilers
638.

BCTEST
No 2785
360 lbs
GAN
22.11.19

Centre Boiler

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No. of Safety Valves, each Boiler **2** ✓✓

Diar. " " " **3 1/2** ✓✓

Area " " " ✓✓

Are the Valves fitted with Easing Gear? **Yes.** ✓✓

No. of Pressure Gauges, each Boiler **One** ✓✓

" Water " " **One** ✓✓

" Test Cocks, **2** ✓✓

" Salinometer Cocks, " **1** ✓✓

Are Water Gauge Pillars attached by Pipes to Steam and Water Spaces? **No.** ✓✓

Are these Pipes connected to Boilers by Cocks or Valves? **No.** ✓✓

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

No. of Strakes of Shell Plating in each Boiler **One** ✓✓

" Plates in each Strake **3** ✓✓

Thickness of Shell Plates by Rule

" " Approved **1 1/4"** ✓✓

" " in Boilers **1 1/4"** ✓✓

Are the Rivet Holes Punched or Drilled? **Drilled.** ✓✓

Are Rivets Iron or Steel? **Steel** ✓✓

Are the Longitudinal Seams Butt or Lap Joints? **Butt.** ✓✓

Are the Double Butt Straps of equal width? **Yes.** ✓✓

Thickness of outside Butt Straps **1 1/32"** ✓✓

" inside " **1 1/8"** ✓✓

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

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

Diar. of Rivet Holes **1 7/16"** ✓✓

Pitch " **9 3/16.** ✓✓

Width of ~~Cover~~ **Strap** **19 1/2** ✓✓

Percentage of Strength in Longitudinal Seams



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

Are these Seams Hand or Machine Riveted? ✓ - -

Diar. of Rivet Holes ✓ - -

Pitch " ✓ - -

Width of Overlap ✓ - -

No. of Rows of Rivets in End Circumferential Seams 2 ✓ ✓

Are these Seams Hand or Machine Riveted? Back machine, front hand. ✓ ✓

Diar. of Rivet Holes $1\frac{5}{16}$ " ✓ $1\frac{3}{16}$ " ✓

Pitch " Back 3.54" ✓ Front 3.23 ✓

Width of Overlap $6\frac{1}{8}$ " ✓ $5\frac{7}{16}$ " ✓Size of Manholes in Shell $16" \times 12"$ ✓

Dimensions of Compensating Rings ✓ - -

Thickness of End Plates in Steam Space by Rule

" " " " " Approved $1\frac{11}{32}$ " ✓ ✓" " " " " in Boilers $1\frac{11}{32}$ " ✓ ✓Pitch of Steam Space Stays $21\frac{1}{2}" \times 21\frac{1}{2}"$ ✓ ✓

Eff. Diar. " " " by Rule

" " " " " Approved $3\frac{3}{8}"$ ✓" " " " " in Boilers $3\frac{3}{8}"$ ✓

Material of " " " ✓

How are Stays Secured? Double nut washers ✓ -

Diar. and Thickness of Loose Washers on End Plates ✓ - -

" " Riveted " " " ✓ - -

Width " " Doubling Strips " " - -

Thickness of Middle Back End Plate by Rule

" " " " " Approved $27/32$ " ✓ ✓" " " " " in Boilers $27/32$ " ✓ ✓

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Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Stays at

Eff. Diar. of Stays by Rule

" " " Approved

" " " in Boilers

Material

Are Stays fitted with Nuts outside?

Thickness of Back End Plates at Bottom by Rule

" " " " " Approved

" " " " " in Boilers

Pitch of Stays at Wide Spaces between Fireboxes

Thickness of Doublings in

Thickness of Front End Plates at Bottom by Rule

" " " " " Approved

" " " " " in Boilers

No. of Long Stays in Spaces between Furnaces

Eff. Diar. of Stays by Rule

" " " " " Approved

" " " " " in Boilers

Material of

Thickness of Front Tube Plates by Rule

" " " " " Approved

" " " " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doublings in

" Stay Tubes at

13 5/8 ✓

17 3/8 ✓

17 3/8 ✓

Steel ✓

Yes ✓

27/32 ✓

27/32 ✓

13 5/8 ✓

31/32 ✓

31/32 ✓

3 ✓

2 3/4 + 2 1/2 ✓

2 3/4 + 2 1/2 ✓

Steel ✓

31/32 ✓

31/32 ✓

13 5/8 ✓

5/16 ✓



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Are Stay Tubes fitted with Nuts at Front End?

No. ✓ ✓

Thickness of Back Tube Plates by Rule

" " " Approved

 $7/8"$ ✓ ✓

" " " in Boilers

 $7/8"$ ✓ ✓

Pitch of Stay Tubes in Back Tube Plates

 $12 \frac{3}{8}" \times 7 \frac{3}{4}"$ ✓

" Plain "

 $4 \frac{1}{8}" \times 3 \frac{7}{8}"$ ✓ ✓

Thickness of Stay Tubes

 $\frac{1}{4}" \times 5/16"$ ✓ ✓

" Plain "

9 W.G. ✓ ✓

External Diam. of Tubes

 $2 \frac{3}{4}"$ ✓ ✓

Material " "

Iron ✓ ✓

Thickness of Furnace Plates by Rule

" " " Approved

 $19/32"$ ✓ ✓

" " " in Boilers

 $19/32"$ ✓ ✓

Smallest outside Diam. of Furnaces

 $3' 11 \frac{3}{16}"$ ✓ ✓

Length between Tube Plates

 $7' 8"$ ✓ ✓

Width of Combustion Chambers (Front to Back)

 $3' 1"$ over plates. ✓ ✓

Thickness of " " " Tops, by Rule

 $23/32"$ ✓ ✓

" " " " Approved

 $23/32"$ ✓ ✓

" " " " in Boilers

Pitch of Screwed Stays in C.C. Tops

 $8 \frac{1}{2}" \times 10 \frac{1}{4}"$ ✓ ✓

Ext. Diam. " " " by Rule

 $1 \frac{3}{4}"$ dia. ✓ ✓

" " " " Approved

 $1 \frac{3}{4}"$ dia. ✓ ✓

" " " " in Boilers

Material " "

Steel. ✓ ✓

Thickness of Combustion Chamber Sides by Rule



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Thickness of Combustion Chamber Sides Approved

 $23/32$ " ✓ ✓

" " " " in Boilers

 $23/32$ " ✓ ✓

Pitch of Screwed Stays in C.O. Sides

 $10\frac{3}{4} \times 8\frac{1}{2}$ " ✓ ✓

Eff. Diar. " " by Rule

 $1\frac{3}{4}$ dia. - ✓ ✓

" " " Approved

 $1\frac{3}{4}$ " ✓ ✓

" " " in Boilers

Material " " "

Steel. - ✓ ✓

Thickness of Combustion Chamber Backs by Rule

" " " " Approved

 $1/16$ " ✓ ✓

" " " " in Boilers

 $1/16$ " ✓ ✓

Pitch of Screwed Stays in C.O. Backs

 $10" \times 8\frac{3}{4}"$ ✓ ✓

Eff. Diar. " " by Rule

 $1\frac{3}{4}$ " dia. ✓ ✓

" " " Approved

 $1\frac{3}{4}$ " ✓ ✓

" " " in Boilers

Material " " "

Steel. ✓ ✓

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

Yls. ✓ ✓

Thickness of Combustion Chamber Bottoms

 $23/32$ " ✓ ✓

No. of Girders over each Wing Chamber

4 ✓ ✓

" " " Centre "

2 ✓ ✓

Depth and Thickness of Girders

 $10\frac{1}{8} \times \frac{13}{16}$ " double. ✓ ✓

Material of Girders

Steel ✓ ✓

No. of Stays in each

3. ✓ ✓

No. of Stay Tubes, each Boiler

114 ✓ ✓

" " Plain " " "

266 ✓ ✓

Size of Lower Manholes

 16×12 " ✓ ✓

VERTICAL DONKEY BOILERS



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VERTICAL DONKEY BOILERS.

If the Donkey Boilers are Vertical the following particulars should be stated in addition to those on previous Pages applicable to such Boilers:—

Type of Boilers

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Ends

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

Effective Diar.

Material

External Diar. of Firebox at Top

Bottom

Thickness of Plates

No. of Water Tubes

Int. Diar.

" "

Material of Water Tubes

No. of Screwed Stays in Firebox Sides

Eff. Diar.

Material

Are they fitted with Nuts inside?

Outside?

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 Superheaters.

Diar.

Area

Are " " fitted with Lifting Gear?

Date of Hydraulic Test

Test Pressure

Date when Safety Valves set

Pressure on Valves

SKETCHES.

REFRIGERATORS



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MAIN STEAM PIPES.

No. of Lengths	Six	Five	One	Two
Material	Steel	Steel	Iron	Steel
Brazed, Welded, or Seamless	Welded.	Welded	Welded	Welded
Internal Diam.	4 7/8"	4 7/8"	4 7/8"	4 7/8"
Thickness	5/16"	7/16"	7/16"	7/16"
How are Flanges Secured?	Screwed.	Screwed.	Screwed.	Screwed.
Date of Hydraulic Test	Tested by Lloyds.	7-11-18.	3-7-11-18 LR.	3-16-3-20 G.A.M.
Test Pressure	540 lbs.	540 lbs.	540.	540.

REFRIGERATORS.

No. of Machines Makers

Description

When any part of the Vessel is to be used for the Carriage of Refrigerated Cargo the following particulars should be stated:—

Total Cubic Capacity of Refrigerated Spaces

Nature, Construction, Thickness, &c., of Insulation

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

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

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

Are Sluice Valves fitted in any of the Bulkheads of Insulated Spaces?

Are these fitted with Brass Non-return Valves?

Are they always accessible?

Are the Bilges and Bilge Rose Boxes always accessible?

Are the Steam Suctions to Bilges fitted with Non-return Valves?

Is the Machine Room effectively separated from Insulated Spaces?

" " properly Ventilated and Drained?

No. of Steam Cylinders, each Machine Diars.

" Compressors, " "

Diam. of Crank Shafts No. of Cranks

Give particulars of Pumps in connection with Refrigerating Plant, and state whether worked by

Refrigerating Machines or independently

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

Date of Test under Working Conditions

Fall of Temperature in Insulated Spaces

Time required to obtain this Result

Articles of Spare Gear for Refrigerating Plant carried on board



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SKETCHES.

ELECTRIC LIGHTING.

Installation Fitted by *Messrs Clarke Chapman & Co Ld.*

No. and Description of Dynamos *One Compound wound.*

Makers of Dynamos *Messrs Clarke Chapman & Co Ld.*

Capacity *100* Amperes, at *100* Volts, *360* Revols. per Min.

Current Alternating or Continuous *Continuous*

Position of Dynamos *Engine room lower platform Starb.*

Main Switch Board *Close to dynamo on Bulkhead on Board prior to frame.*

No. of Circuits to which Switches are provided on Main Switch Board *587*

Particulars of these Circuits:—

No. of Circuit.	Name of Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
1	<i>Mid. Acc.</i>			<i>25.42</i>	<i>7/12</i>			
1	<i>Accompd.</i>	<i>59 45</i>	<i>16 16</i>	<i>33</i>	<i>7/16</i>			
2	<i>Eng. Room</i>	<i>11 24</i>	<i>16 16</i>	<i>13.4</i>	<i>7/20</i>			
3	<i>Cargo Cluster</i>	<i>30 33</i>	<i>16 16</i>	<i>16.8</i>	<i>7/16</i>			
4	<i>Navigation</i>	<i>24 6</i>	<i>16 16</i>	<i>13.4</i>	<i>7/20</i>			
5	<i>Wireless.</i>	<i>9</i>	<i>16</i>	<i>25</i>	<i>7/16</i>			
6	<i>aff.</i>	<i>26</i>	<i>16</i>	<i>14.5</i>	<i>7/20</i>			
7	<i>Wireless.</i>	<i>-</i>	<i>16</i>	<i>25</i>	<i>7/16</i>			
8	<i>Accompd.</i>	<i>59 45</i>	<i>16 16</i>	<i>33</i>	<i>7/16</i>			
1	<i>Eng. Room</i>	<i>37</i>	<i>16</i>	<i>18.9</i>	<i>7/17</i>			
2	<i>Saloon + forward</i>	<i>49</i>	<i>16</i>	<i>25</i>	<i>7/17</i>			
3	<i>Engine + aft</i>	<i>27</i>	<i>16</i>	<i>13.7</i>	<i>7/20</i>			
4	<i>Navigation</i>	<i>22</i>	<i>16</i>	<i>11.2</i>	<i>7/18</i>			
5	<i>Cargo fwd</i>	<i>39</i>	<i>16</i>	<i>19.9</i>	<i>7/15</i>			
6	<i>" aft</i>	<i>39</i>	<i>16</i>	<i>19.9</i>	<i>7/15</i>			
7	<i>Wireless</i>	<i>-</i>	<i>16</i>	<i>25</i>	<i>7/16</i>			

Total No. of Lights *148* No. of Motors driving Fans, &c. *213* No. of Heaters *1*Current required for Motors and Heaters *148*

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Positions of Auxiliary Switch Boards, with No. of Switches on each

each light group of lights provided with switches as required.

Are Cut-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. *1/18* S.W.G., Largest, No. *1/16* S.W.G.

How are Conductors in Engine and Boiler Spaces protected?

" " Saloons, State Rooms, &c., " ?

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp

(2) " " passing through Bunkers or Cargo Spaces

(3) " " Deck Beams or Bulkheads

Lead covered & steel armoured.

Gal. non deck tubes & W. T. Glands.

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables

is unimpaired? *No joints except mechanical ones.*

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?

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

Has the Insulation Resistance over the whole system been tested?

What does the Resistance amount to?

Is the Installation supplied with a Voltmeter?

" " " an Ampere Meter?

Date of Trial of complete Installation

Duration of Trial

26.6.19 6 hours.
2.10.19 6 hours.
22.4.20 6 hours.

640,000 Ohms.
656,000



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EVAPORATORS.

No. *One* Type *Vertical* Tons per Day *25*
 Makers *G. & J. Weir Ltd. Carthart* *JS No 5871*
 Working Pressure *15 lbs.* Test Pressure *30 lbs.* Date of Test *13.12.18.*
 Date of Test of Safety Valves under Steam *26.6.19.*
1.10.19.
17.4.20.

FEED WATER HEATERS.

No. *One* Type *Leaking Contact* *No 60019*
 Makers *G. & J. Weir Ltd. Carthart.* *No 59664*
 Working Pressure *20 lbs.* Test Pressure *40 lbs.* Date of Test *26.6.19.*
2.10.19.
17.4.20.

DONKEY

MAIN FEED (HEATER)

No. of Donkeys *One*
 Type *Vertical*
 Makers *G. & J. Weir Ltd.*
 Single or Duplex *Single*
 Double-Acting *Double acting*
 Diam. of Steam Cylinders *10 1/2"*
 Pumps *8"*
 Stroke of *21"*
 Where do they pump from? *Heater*
 Where do they discharge to? *Boilers*

AUX FEED (DIRECT)

One
Vertical
G. & J. Weir Ltd.
Single
Double acting
9 1/2"
7"
18"
Hotwater & Sea.
Condenser, Reserve
Feed tank
Main Boilers

Capacity, Tons per Hour of Ballast Donkey

Diam. of Pipe required by Rule for

FEED WATER FILTERS.

No. *One* Type *Suction* Size *4" suction*
 Makers *Cable, S. & C.*
 Working Pressure *14.2.19* Test Pressure *14.2.19* Date of Test *14.2.19*

FORCED DRAUGHT FANS.

No. of Fans *One* Diam. *87"* Revols. per min.
 How are Fans driven? *Direct Coupled independent engine*
Cyl. 7 1/2 x 5 Stroke. *Jas. Howden.*

PUMPS.

GENERAL.

One
Vertical
G. & J. Weir Ltd.
Single
Double acting
9 1/2"
7"
18"
Hotwater, Sea, Bottom of
boilers, Reserve feed tank
Boilers, overboard & over
Deck Pumps

BALLAST.

One
Vertical
Mrs. Lamont & Co.
Single
Double acting
10 1/2"
14"
24"
Ballast, tanks, sea,
Bilge line, Overboard
Overboard E.R. Hose
Condenser, Pumps
Deck, Overboard

largest Ballast Tank

Velocity of Water in Pipe

One vertical pump for pumping
fresh water from No 5 to feed tank
Deck tank

SPARE GEAR.

No. of Top End Bolts	2	No. of Bot. End Bolts	2
" Main Bearing Bolts	2	" Coupling Bolts	3 Crank 3 Balance
" Cylr. Cover Bolts Studs	6	" Valve Chest Cover Bolts Studs	6
" Feed Pump Valves	2	" Bilge Pump Valves	1
" Safety Valve Springs	1 set	" Fire Bars	100 + 10 wing beam
" Piston Rings	—	" Junk Ring Bolts Studs	12
" Piston Rods	—	" Connecting Rods	—
" Valve Spindles	— 7 valves fill	" Air Pump	—
" Air Pump Valves	6	" " " Buckets	—
" Crank Pin Bushes	—	" Crosshead Bushes	—
" Crank Shafts	—	" Propeller Shafts	—
" Propellers	2 Spare blades	" " Blades	2
" Boiler Tubes	— 12	" Condenser Tubes	—

OTHER ARTICLES OF SPARE GEAR:—

3 Main check valves. — 1 Diaph. each size Red. valve
 3 O.Ky. " " — 1 filter bucket.
 50 bolts & nuts. — 56 lbs Coir
 5 Round beam — 1 set. pist. rings Air pump.
 3 flat. " — 1 x head bush
 6 studs each size Bls. Mtp. — 1 Crank pin bush.
 12 doz. filed pin washers etc. — 12 Gauge glass. Evah.
 50 Cond. females — 24 " " rings
 100 " packings — 36 " " Bolts
 6 Air pump Valves. — 72 " " rings
 2 Rings packing each size. — 1 set. Allen as per
 1 Fed beam spring. — Specification & Brown
 4 Awl. White metal — Special Reg.
 1. Disc, Stop valve. —

GENERAL CONSTRUCTION.

Have all the Requirements under Sections 31 and 32 of the Rules been complied with? *Yes.*

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

Surveyor. *✓*

Are the Steam Pumping Arrangements in accordance with the approved Plan? *Yes.*

If not, state in what respects they differ and when such differences were sanctioned by the Chief

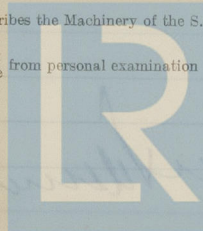
Surveyor. *✓*

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. "URBINO".

as ascertained by me from personal examination



Lloyd's Register
 Engineer Surveyor to the British Corporation for the
 Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

H.S. 7668 Sq. ft.

G.S. 189.9

DONKEY BOILERS.

H.S. ✓ Sq. ft.

G.S. ✓

ENGINES.

L.P.C. 116 Cub. ft.

Testing, &c.

Expenses

Total

It is submitted that this Report be approved,

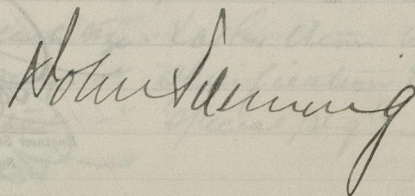
Chief Surveyor.

Approved by the Committee,

for the class of M.B.S.*
on the 12th May 1920.

Fees applied for

Fees paid



Secretary.



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7668-1000

189-9-1000

H.A. ✓

G.S. ✓

11/6-1000

It is recommended that this Report be approved.

Approved by the Committee for the Study of M.P.S.
on the 12th May 1900

Witnessed by

The Clerk

Wm. Adair



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