

No. 2185

TRANSFERRED TO
L. R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 2071 No. in Register Book 3419

S.S. COALFAX

Makers of Engines Shields Engineering Co.
N^o Shields

Works No. 380

Makers of Main Boilers Palmer's S. & Co.
Hoburn

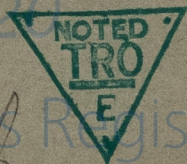
Works No. 1081/2

Makers of Donkey Boiler

None Fitted L & H

Works No. ✓

MACHINERY.



004394-004404-0037

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No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. No. in Register Book

Received at Head Office *21st March 1928*

Surveyor's Report on the New Engines, Boilers and Auxiliary
Machinery of the *Single Screw* *Cleaner*

Coalfax

Official No.

Port of Registry

Montreal

Registered Owners

Coal Carrier Corporation Ltd.

Engines Built by

Shields Engineering Co. & Dry Dock Ltd.

at

North Shields

Main Boilers Built by

Messrs Palmer & F.G. Hebburn

at

Hebburn

Donkey

none

at

Date of Completion

9-9-27

First Visit

7-3-27

Last Visit

9-8-27

Total Visits

40

*(including 5
in Middlesbrough)*

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RECIPROCATING ENGINES.

Works No. **380** No. of Sets **1** Description **Triple Expansion Surface Condensing.**

No. of Cylinders each Engine **3.** No. of Cranks **3.**
 Diars. of Cylinders **16" 24" 44"** Stroke **33"**
 Cubic feet in each L.P. Cylinder **29.04 cubic feet.**

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

" " " each Receiver? **Yes**

Type of H.P. Valves,

" 1st I.P. "

" 2nd I.P. "

" L.P. "

" Valve Gear

" Condenser

Piston Valve
Andrews & Camerons

Double Ported.

Stephensons Link.

Two-flow Steel.

Cooling Surface **950** sq. ft.

Diameter of Piston Rods (plain part) **4 1/4"** Screwed part (bottom of thread) **3 1/4"**

Material

Hygot steel.

Diar. of Connecting Rods (smallest part)

4 1/4"

Material

Hygot Steel

" Crosshead Gudgeons

4 5/8"

Length of Bearing

4 1/8"

Material

Forged Steel

No. of Crosshead Bolts (each)

4

Diar. over Thrd.

1 3/8"

Thrds. per inch

12

Material

Mild Steel.

" Crank Pin

2

"

2 1/4"

"

"

"

" Main Bearings

6

Lengths

8 3/4"

"

"

"

" Bolts in each

2

Diar. over Thread

2 1/4"

Threads per inch

6

Material

Wrot Iron

" Holding Down Bolts, each Engine

55

Diar.

1 1/4"

No. of Metal Chocks

55

"

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

Tank Top.

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

Yes.

If not, how are they fitted? **✓**

Connecting Rods, Forged by

Carmichael & Co Dundee

Piston " "

Coghlen Steel Co Ltd

Crossheads, " "

Carmichael & Co Dundee

Connecting Rods, Finished by

Chields Eng & M Co.

Piston " "

Crossheads, " "

Date of Harbour Trial

31-8-27.

" Trial Trip

10-9-27.

Trials run at

In Glen Bay.

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

Yes

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

881

Revs. per min.

89

Pressure in 1st I.P. Receiver, **175** lbs., 2nd I.P., **64** lbs., L.P., **11 1/2** lbs., Vacuum, **26** ins.

Speed on Trial

9.4 Knots approx

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

data:—

Builders' estimated I.H.P. **✓**

Revs. per min. **✓**

Estimated Speed **✓**



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TURBINE ENGINES.

Works No.	Type of Turbines			Position
No. of H.P. Turbines	No. of I.P.	No. of L.P.	No. of Astern	Construction
Are the Propeller Shafts driven direct by the Turbines or through Gearing?				
Is Single or Double Reduction Gear employed?				
Diam. of 1st Reduction Pinion	} Width	Pitch of Teeth	Date of Harbour Trial	
" 1st " Wheel			Trial Trip	
Estimated Pressure per lineal inch				
Diam. of 2nd Reduction Pinion	} Width	Pitch of Teeth	Date of Harbour Trial	
" 2nd " Wheel			Trial Trip	
Estimated Pressure per lineal inch				
Revs. per min. of H.P. Turbines at Full Power		S.H.P.		
" " I.P. " "	Speed on Trial			
" " L.P. " "	Date			
" " 1st Reduction Shaft	Estimated Speed			
" " 2nd " "	Estimated Speed			
" " Propeller Shaft	Estimated Speed			
Total Shaft Horse Power				
Date of Harbour Trial				
" Trial Trip				
Trials run at				
Speed on Trial	Knots.	Propeller Revs. per min.	S.H.P.	
Turbine Spindles forged by				
" Wheels forged or cast by				
Reduction Gear Shafts forged by				
" Wheels forged or cast by				

TURBO-ELECTRIC INSTALLATION. DESCRIPTION OF MACHINERY.

No. of Turbo-Generating Sets	Capacity of each	Construction
Type of Turbines employed	Description of Generators	
No. of Motors driving Propeller Shafts		
Are the Propeller Shafts driven direct by the Motors or through Gearing?		
Is Single or Double Reduction Gear employed?		
Description of Motors		
Date of Harbour Trial		
Diam. of 1st Reduction Pinion	} Width	Pitch of Teeth
" 1st " Wheel		
Estimated Pressure per lineal inch		
Diam. 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.
Turbine Spindles forged by		
" Wheels forged or cast by		
Reduction Gear Shafts forged by		
" Wheels forged or cast by		



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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

Diam. of 1st Reduction Pinion	}	Width	Pitch of Teeth
" 1st " Wheel			

Estimated Pressure per lineal inch

Diam. 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.	S.H.P.
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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.

No. of Engines

Diam. of Pinion Gears

At Couplings

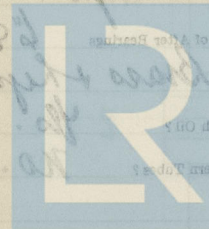
Length of After Bearings

At what Material are the After Bearings composed?

Are the Propeller Shafts fitted with Collapsible Brass Liners?

Are the Propeller Shafts fitted with Collapsible Brass Liners?

Are the Propeller Shafts fitted with Collapsible Brass Liners?



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SHAFTING.

Are the Crank Shafts Built or Solid? *Built*

No. of Lengths in each *2* Angle of Cranks *120°*

Diar. by Rule *8.6'* Actual *8 $\frac{3}{4}$ '* In Way of Webs *8 $\frac{7}{8}$ '*

" of Crank Pins *8 $\frac{3}{4}$ '* Length between Webs *8 $\frac{7}{8}$ '*

Greatest Width of Crank Webs *16 $\frac{3}{4}$ '* Thickness *5 $\frac{1}{2}$ '*

Least " " *16 $\frac{3}{4}$ '* " " *5 $\frac{1}{2}$ '*

Diar. of Keys in Crank Webs *7 $\frac{1}{8}$ '* Length *3 $\frac{1}{2}$ ' long*

" Dowels in Crank Pins *1 $\frac{1}{4}$ '* Length *4'* Screwed or Plain *Plain*

No. of Bolts each Coupling *6* Diar. at Mid Length *2* Diar. of Pitch Circle *12 $\frac{1}{4}$ '*

Greatest Distance from Edge of Main Bearing to Crank Web *8'*

Type of Thrust Blocks

Multi-collar.

No. " Rings

Four

Diar. of Thrust Shafts at bottom of Collars

8 $\frac{3}{4}$ '

No. of Collars

4

" " Forward Coupling

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

At Aft Coupling

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

Diar. of Intermediate Shafting by Rule

None

Actual

No. of Lengths

No. of Bolts, each Coupling

6

Diar. at Mid Length

2

Diar. of Pitch Circle

12 $\frac{1}{4}$ '

Diar. of Propeller Shafts by Rule

9.35'

Actual

9 $\frac{1}{2}$ '

At Couplings

8 $\frac{3}{4}$ '

Are Propeller Shafts fitted with Continuous Brass Liners?

Yes

Diar. over Liners

10 $\frac{3}{4}$ '

Length of After Bearings

6' 8" 3' 3 $\frac{1}{8}$ "

Of what Material are the After Bearings composed?

Brass &ignum Vitae

Are Means provided for lubricating the After Bearings with Oil?

Yes

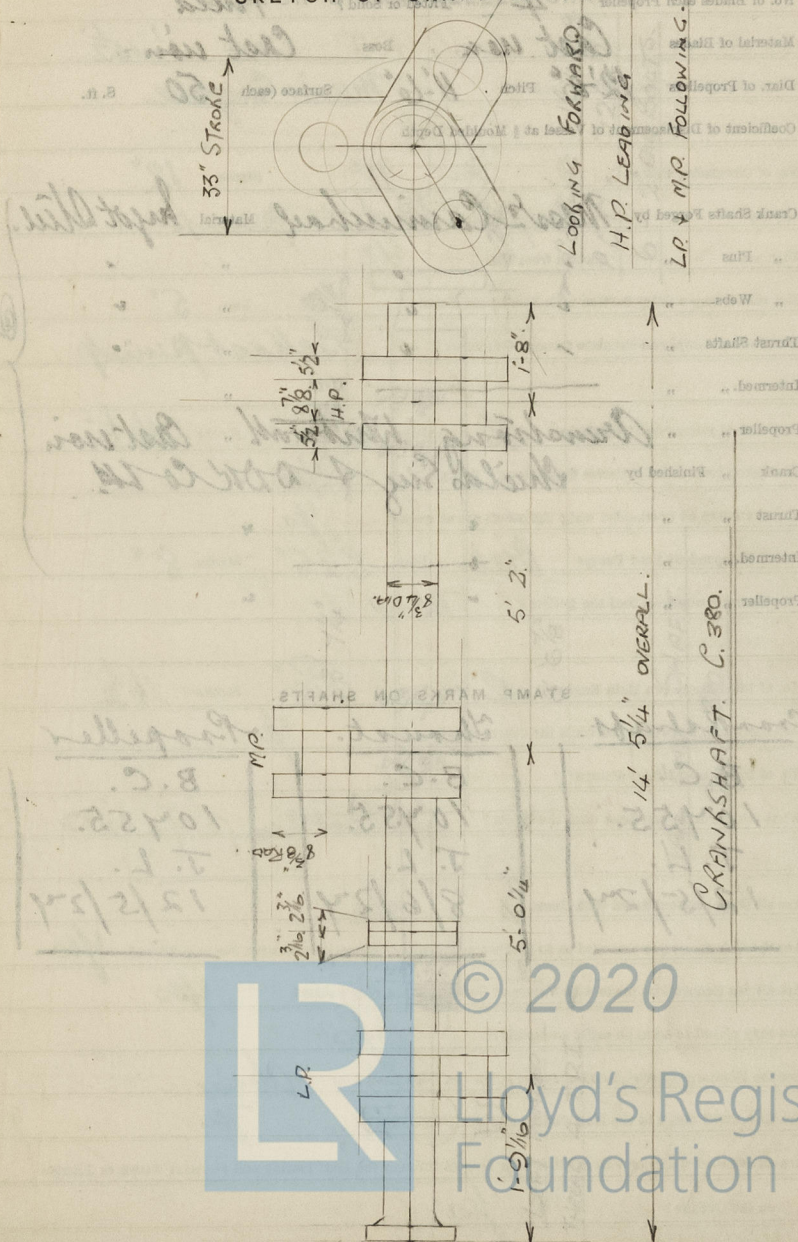
" " to prevent Sea Water entering the Stern Tubes?

No.

If so, what Type is adopted?

—

SKETCH OF CRANK SHAFT.



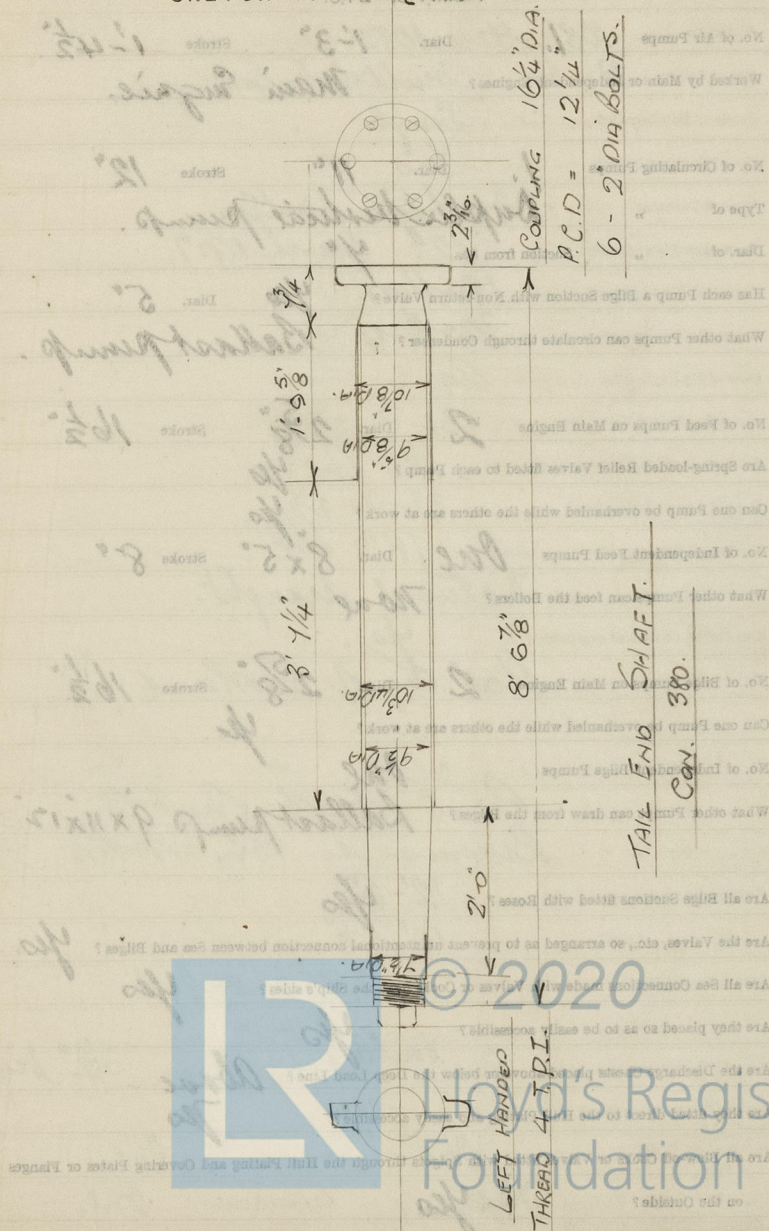
No. of Blades each Propeller **4** Fitted or Solid? **Fitted**
 Material of Blades **Cast iron** Boss **Cast iron**
 Diam. of Propellers **12'-0"** Pitch **11'-6"** Surface (each) **50** S. ft.
 Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth

Crank Shafts Forged by **Messrs Cammichall** Material **Ingot Steel**
 " Pins " " " "
 " Webs " " " "
 Thrust Shafts " " " "
 Intermed. " " " "
 Propeller " **Armstrong Whitworth** " **Cast iron**
 Crank " Finished by **Chields Sug & O'Don Co Ltd**
 Thrust " " " "
 Intermed. " " " "
 Propeller " " " "

STAMP MARKS ON SHAFTS.

Crankshaft.	Thrust.	Propeller
B.C.	B.C.	B.C.
10455.	10455.	10455.
J.L.	J.L.	J.L.
12/5/24	8/6/24	12/5/24

SKETCH OF PROPELLER SHAFT.



PUMPS, ETC.

No. of Air Pumps 1. Diar. 1'-3" Stroke 1'-4½"
 Worked by Main or Independent Engines? Main Engine.

No. of Circulating Pumps 1. Diar. 11" Stroke 12"
 Type of " Duplex vertical pump.

Diar. of " Suction from Sea 4"
 Has each Pump a Bilge Suction with Non-return Valve? Yes
 What other Pumps can circulate through Condenser? Ballast pump.

No. of Feed Pumps on Main Engine 2 Diar. 2 5/8" Stroke 16 1/2"
 Are Spring-loaded Relief Valves fitted to each Pump? Yes

Can one Pump be overhauled while the others are at work? Yes
 No. of Independent Feed Pumps One Diar. 8 x 5" Stroke 8"
 What other Pumps can feed the Boilers? None

No. of Bilge Pumps on Main Engine 2 Diar. 2 5/8" Stroke 16 1/2"
 Can one Pump be overhauled while the others are at work? Yes

No. of Independent Bilge Pumps One
 What other Pumps can draw from the Bilges? Ballast pump 9 x 11 x 12"

Are all Bilge Suctions fitted with Roses? Yes
 Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges? Yes

Are all Sea Connections made with Valves or Cocks next the Ship's sides? Yes
 Are they placed so as to be easily accessible? Yes

Are the Discharge Chests placed above or below the Deep Load Line? Above
 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

BOILERS

Works No. 1081 & 1082
 No. of Boilers 2 Type 2

Single or Double-ended
 No. of Furnaces in each 2

Type of Furnaces 2
 Date when first approved 1881

Approved by which authority 1881
 Hydraulic Test Pressure 300 lbs

Date of Hydraulic Test 1881

When Safety Valves set 1881

Pressure at which Safety Valves set 1881

Date of Accumulation Test 1881

Maximum Pressure under Accumulation Test 1881

System of Heating 1881

Can Boilers be worked separately? 1881

Place of Station 1881

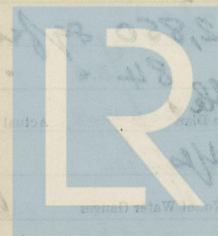
Boiler No. 1881

Pressure Test of Heating 1881

No. of Safety Valves on Boiler 1881

Are the Safety Valves fitted with Locks 1881

No. of Blow-off Cocks 1881



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Thickness of End Plates in Steam Space Approved

" " " " in Boilers

Pitch of Steam Space Stays

Diar. " " " " Approved $2\frac{3}{4}$ Threads per Inch

" " " " in Boilers

Material of " " "

How are Stays Secured?

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

Diar. of Stays Approved $1\frac{3}{4}$ Threads per Inch" " in Boilers $1\frac{3}{4}$

Material "

Are Stays fitted with Nuts outside? $\frac{1}{2}$

Thickness of Back End Plates at Bottom Approved

" " " " in Boilers

Pitch of Stays at Wide Spaces between Fireboxes

Thickness of Doublings in " "

Thickness of Front End Plates at Bottom Approved

" " " " in Boilers

No. of Longitudinal Stays in Spaces between Furnaces

one between furnaces
+ one each side in wings

Threads per inch

Diar. of Stays Approved

in Boilers

Material

Thickness of Front Tube Plates Approved

" " " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doublings in

Stay Tubes at

Are Stay Tubes fitted with Nuts at Front End?

Thickness of Back Tube Plates Approved

" " " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

" " " " Plain

Thickness of Stay Tubes

" " " " Plain

External Diar. of Tubes

Material

Thickness of Furnace Plates Approved

" " " " in Boilers

Smallest outside Diar. of Furnaces

Length between Tube Plates

Width of Connection Chambers (Front to Back)

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Diar. of Stays Approved

2 1/2
2 1/2

Threads per Inch

6.

" " in Boilers

Material

Steel

Thickness of Front Tube Plates Approved

1/32
1/32

" " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

14 1/2

Thickness of Doublings in

None

" Stay Tubes at

3/8

Are Stay Tubes fitted with Nuts at Front End?

A number (4000)

Thickness of Back Tube Plates Approved

3/4
4

" " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

9' x 9'
4 1/2' x 4 1/2'

" Plain "

Thickness of Stay Tubes

4 @ 3/8 28 @ 5/16 + 30 @ 1/4

" Plain "

8 W.G.

External Diar. of Tubes

3 1/4

Material

Iron.

Thickness of Furnace Plates Approved

9/16
9/16

" " " in Boilers

Smallest outside Diar. of Furnaces

3'-6 5/8"
6'-10 3/4"

Length between Tube Plates

Width of Combustion Chambers (Front to Back)

2'-9"

Thickness of " " Tops Approved

11"
3/4 11"
3/4

" " " in Boilers

Pitch of Screwed Stays in C.C. Tops

9/4 x 8 1/2



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Diar. of Screwed Stays Approved

 $1\frac{3}{4}$

Threads per Inch

9

" " " in Boilers

 $1\frac{3}{4}$

9

Material " "

Steel

Thickness of Combustion Chamber Sides Approved

 $\frac{21}{32}$ $\frac{21}{32}$

" " " " in Boilers

Pitch of Screwed Stays in C.O. Sides

 $9\frac{1}{4} \times 8\frac{3}{4}$

Diar. " " Approved

 $1\frac{3}{4}$

Threads per Inch

9

" " " in Boilers

 $1\frac{3}{4}$

Material " "

Steel

Thickness of Combustion Chamber Backs Approved

 $\frac{21}{32}$ $\frac{21}{32}$

" " " " in Boilers

Pitch of Screwed Stays in C.O. Backs

 9×9

Diar. " " Approved

 $1\frac{3}{4}$

Threads per Inch

9

" " " in Boilers

 $1\frac{3}{4}$

Material " "

Steel

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

Yes

Thickness of Combustion Chamber Bottoms

 $1\frac{1}{4}$

No. of Girders over each Wing Chamber

Five

" " " Centre "

no Centre furnace

Depth and Thickness of Girders

 $8\frac{1}{2} \times \frac{3}{4}$ double plate

Material of Girders

Steel plate

No. of Stays in each

Two

No. of Tubes, each Boiler

196

Size of Lower Manholes

 $16" \times 12"$

VERTICAL DONKEY BOILERS

No. of Boilers
Type
Greatest Int. Diam.
Height
Height of Boiler Crown above Fire Grate
Are Boiler Crowns Flat or Dished?
Internal Radius of Dished Ends
Description of Stays in Boiler Crown
Diam. of Rivet Holes
Pitch
Height of Firebox Crown above Fire Grate
Are Firebox Crowns Flat or Dished?
External Radius of Dished Crowns
No. of Crown Stays
Diam.
Material
Thickness of Plates
External Diam. of Firebox at Top
Bottom
Diam.
No. of Water Tubes
Material of Water Tubes
Size of Manhole in Shell
Dimensions of Combustion Ring
Working surface, each boiler
(Gross Surface)

SUPERHEATERS



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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

MAIN STEAM PIPES.

No. of Lengths
 Material
 Joints, Welded or Seamless
 Internal Diar.
 Thickness
 How are Flanges secured?
 Date of Hydraulic Test
 Test Pressure

No. of Lengths
 Material
 Joints, Welded or Seamless
 Internal Diar.
 Thickness
 How are Flanges secured?
 Date of Hydraulic Test
 Test Pressure

No. of Lengths

Material

Joints, Welded or Seamless

Internal Diar.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure



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MAIN STEAM PIPES.

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

3
Copper.
S.D.
4"
y w.t.
braked.
22-8-27.
400 lbs.

FEED WATER HEATERS.

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

FEED WATER FILTERS.

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

FEED WATER FILTERS.

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure



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No. of Top End Bolts.	No. of Bot. End Bolts.	No. of Cylinder Cover Studs
" Coupling Bolts	" Main Bearing Bolts	" Valve Chest
" Junk Ring Bolts	" Feed Pump Valves	" Bilge Pump Valves
" H.P. Piston Rings	" L.P. Piston Rings	" L.P. Piston Rings
" " Springs	" " Springs	" " Springs
" Safety Valve	" Fire Bars	" Feed Check Valves
" Piston Rods	" Connecting Rods	" Valve Spindles
" Air Pump Rods	" Air Pump Buckets	" Air Pump Valves
" Cir.	" Cir.	" Cir.
" Crank Shafts	" Crank Pin Bushes	" Crosshead Bushes
" Propeller Shafts	" Propellers	" Propeller Blades
" Boiler Tubes	" Condenser Tubes	" Condenser Ferrules

OTHER ARTICLES OF SPARE GEAR:—

12 Gauge Glasses & Rings
1 set Feed pump Valves & Seats
1 " Circul " " " "
1 set Bilge " " " "
6 Boiler Tubes.
3 " Stay tubes.
1 set Firebars for one Furnace
24 Nuts & Bolts assorted.
1 set of propeller nuts & studs.

REFRIGERATORS.

No. of Machines *2* Capacity of each *2* No. of Cylinders *2*

Makers *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

Description *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

No. of Steam Cylinders, each Machine *1* No. of Compressors *2* No. of Cranks *2*

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines or Independently *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

System of Refrigeration *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

Insulation *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces? *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage? *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated? *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them? *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

Date of Test under Working Conditions *1st. 2nd. 3rd.* *1st. 2nd. 3rd.* *1st. 2nd. 3rd.*

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.
Motors of Dynamos	<i>44.0</i>	<i>40.0</i>	<i>4/00</i>	<i>100</i>
Capacity	<i>4/2</i>	<i>4/2</i>	<i>4/00</i>	<i>100</i>
Current: Amperes at beginning	<i>44.0</i>	<i>40.0</i>	<i>4/00</i>	<i>100</i>
Single or Double Wire System	<i>44.0</i>	<i>40.0</i>	<i>4/00</i>	<i>100</i>
Position of Dynamo	<i>44.0</i>	<i>40.0</i>	<i>4/00</i>	<i>100</i>
No. of Cylinders to which Work was applied in Main Switch Board	<i>44.0</i>	<i>40.0</i>	<i>4/00</i>	<i>100</i>
Particulars of Main Switch Board	<i>44.0</i>	<i>40.0</i>	<i>4/00</i>	<i>100</i>
Cranks	<i>44.0</i>	<i>40.0</i>	<i>4/00</i>	<i>100</i>
Navigation	<i>8</i>	<i>44.0</i>	<i>40.0</i>	<i>4/00</i>
Ind. Acc.	<i>246</i>	<i>2200</i>	<i>19/52</i>	<i>452</i>
Reduction	<i>30</i>	<i>1490</i>	<i>12.7</i>	<i>4/00</i>
after	<i>30</i>	<i>1490</i>	<i>12.7</i>	<i>4/00</i>
Accommodated	<i>30</i>	<i>1490</i>	<i>12.7</i>	<i>4/00</i>

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



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REFRIGERATORS.

MAINT. NO. 27000000

No. of Refrigerators	Capacity of each	Temp. at which to cool	Temp. at which to keep	Remarks

ELECTRIC LIGHTING.

Installation Fitted by *Jumess S.B. Co. Ltd.*
 No. and Description of Dynamos *One Compound wound.*
 Makers of Dynamos *Campbell & Isherwood.*
 Capacity *1/2* Amperes, at *110* Volts, *400* Revs. per Min.
 Current Alternating or Continuous *Continuous.*
 Single or Double Wire System *Double.*
 Position of Dynamos *Starboard Eng. Room, Trimmer Deck.*
 „ Main Switch Board *do*
 No. of Circuits to which Switches are provided on Main Switch Board *6.*

Particulars of these Circuits:—

Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
<i>Navigation</i>	<i>8</i>	<i>440</i>	<i>4.0</i>	<i>7/044</i>	<i>400</i>	<i>100%</i>	<i>600 meg.</i>
<i>Food Accommodation</i>	<i>46</i>	<i>2200</i>	<i>18.1</i>	<i>19/052</i>	<i>452</i>	<i>"</i>	<i>"</i>
<i>after Accommodation</i>	<i>30</i>	<i>1490</i>	<i>12.7</i>	<i>7/044</i>	<i>1220</i>	<i>"</i>	<i>"</i>
<i>Engine Room</i>	<i>22</i>	<i>1600</i>	<i>10.9</i>	<i>7/044</i>	<i>1090</i>	<i>"</i>	<i>"</i>
<i>Tunnels etc.</i>	<i>62</i>	<i>2600</i>	<i>23.6</i>	<i>7/044</i>	<i>2360</i>	<i>"</i>	<i>"</i>

Total No. of Lights *168* No. of Motors driving Fans, &c. *1* No. of Heaters *4*
 Current required for Motors and Heaters *100*

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

Installation fitted by *James H. H. H.*
 No. and Description of Dynamos *one compound wound*
 Makers of Dynamos *Campbell, Babcock*
 Capacity *110 400*
 Current Alternating or Continuous *continuous*
 Single or Double Wire System *single*
 Position of Dynamos *State room*
 Main Switch Board *State room*
 No. of Circuits to which Switches are provided on Main Switch Board *2*

Insulation Resistance per Mile	Conductivity of Insulation	Current Density	Size of Conductor	Current Rating Amps	Capacity Power	Number of Lamps	Current
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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 Out-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. *19/064* 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

Deck Beams or Bulkheads *Bushes for L.C. Cables*
Had covered, Armoured, braided.
Had covered, Armoured, braided.
Had covered, Armoured, braided.

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

is unimpaired? *Yes.*Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? *Yes.*Are all Hull Connections for Single-Wire Systems made with Screws of large Surface? *Yes.*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? *Yes.*What does the Resistance amount to? *6 Meg. p.*

Ohms,

Is the Installation supplied with a Voltmeter? *Yes.*" " " an Ampere Meter? *Yes.*Date of Trial of complete Installation *10-9-27*Duration of Trial *6 hours.*Have all the requirements of Section 42 been satisfactorily carried out? *Yes.*

It is submitted that this Report be approved.
 Are the Materials used in the Construction of Engines and Boilers so far as could be seen, sound and
 is the Relationship thoroughly satisfactory?
 Approved by the Committee for examination
 The above corrected and checked the accuracy of the Report
 as ascertained by their personal examination
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GENERAL CONSTRUCTION.

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

Approved Plans? *Yls.*

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

Surveyor.

affected by them?

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

Has the installation been made over the whole system?

What does the resistance amount to?

Is the installation supplied with a Voltmeter?

as Amperes Meter?

Date of Trial of complete installation

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

On Main Switch Board, as Cable or Main Circuit

On Aux. ... and Auxiliary Circuit

Wherever a Cable is required to run

To each Lamp Circuit

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and trustworthy? *Yls.*

Is the Workmanship throughout thoroughly satisfactory? *Yls.*

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

Smallest Single Wire used, No. 3/029

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

as ascertained by ^{us} _{me} from personal examination

What special protection is provided in the following cases?

(1) Connections exposed to Heat or Fire

(2) Wires passing through ...

"COALFAX"

Engine Surveyor to the British Corporation for the Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

	£	s.	d.
H.S. Sq. ft.	17	2	0

G.S.	"	:	:
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DONKEY BOILERS.

H.S. Sq. ft.	:	:
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G.S.	"	:	:
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£	17	2	0
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ENGINES.

L.P.C. Cub. ft.	:	:
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£	:	:
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Testing, &c. ...	:	:
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£	41	12	0
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Expenses ...	8	0	0
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Total ... £	49	12	0
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It is submitted that this Report be approved,

Y. Lister King
Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the 4th April 1928

Fees advised

Fees paid



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35

2. *subject*

Exposure

Total

1993-1994

1998

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