

No. 2086

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 2124 No. in Register Book 3449

NN. ALGOL
EX
S.S. "BARON YARBOROUGH"

Makers of Engines D. Rowan & Co Ltd

Works No. 861

Makers of Main Boilers D. Rowan & Co Ltd

Works No. 861

Makers of Donkey Boiler —

Works No. —

MACHINERY.



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No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 59 No. in Register Book 487

Received at Head Office 24th March 1928

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the ^{Single Triple} ~~Cain Quadruple~~ Screw Steamship
"BARON YARBOROUGH"

Official No. Port of Registry Ardrossan

Registered Owners Kelvin Shipping Co Ltd
(Messrs Stogarth & Co Ltd Managers)

Engines Built by J. Rowan & Co Ltd
at Glasgow

Main Boilers Built by J. Rowan & Co Ltd
at Glasgow

Donkey " " —
at —

Date of Completion 10/3/28

First Visit 17/1/28 Last Visit 10/3/28 Total Visits 35

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RECIPROCATING ENGINES.

Works No. *861* No. of Sets *1* Description *Triple Expansion surface condensing 3 crank steam engine*

No. of Cylinders each Engine *3* No. of Cranks *3*
 Diars. of Cylinders *2 1/2", 37" and 62"* Stroke *39"*
 Cubic feet in each L.P. Cylinder *68.13.*

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

" " " each Receiver? *I.P. & L.P.*

Type of H.P. Valves, *Piston*
 " 1st I.P. " *Andrews & Cameron*
 " 2nd I.P. " *—*
 " L.P. " *Double-ported D slide valve.*
 " Valve Gear *Stephensons Link motion*
 " Condenser *Surface* Cooling Surface *1850*, sq. ft.

Diameter of Piston Rods (plain part) *5 1/2"* Screwed part (bottom of thread)

Material " *mild steel*

Diars. of Connecting Rods (smallest part) *5 1/4"* Material *M. Steel*

" Crosshead Gudgeons *6"* Length of Bearing *2 2/6"* Material " "

No. of Crosshead Bolts (each) *4* Diars. over Thrd. *2 1/2"* Thrds. per inch *6* Material *H.S.*

" Crank Pin " " *2* " *3 1/4"* " *6* " "

" Main Bearings *6* Lengths *11 7/8"*

" Bolts in each *2* Diars. over Thread *2 1/2"* Threads per inch *6* Material *H.S.*

" Holding Down Bolts, each Engine *86* Diars. *1 3/8"* No. of Metal Chocks *86*

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, except*

If not, how are they fitted?

Connecting Rods, Forged by *Henschel & Sohn*

Piston " " *S. Rowan & Co Ltd*

Crossheads, " " " " " " " " " " " "

Connecting Rods, Finished by *S. Rowan & Co Ltd*

Piston " " " " " " " " " " " "

Crossheads, " " " " " " " " " " " "

Date of Harbour Trial *2/3/28.*

" Trial Trip *10/3/28.*

Trials run at *Skelmorlie*

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

If so, what was the I.H.P.? *1640* Revols. per min. *72.375*

Pressure in 1st I.P. Receiver, *70* lbs., 2nd I.P., — lbs., L.P., *12 1/2* lbs., Vacuum, *27* ins.

Speed on Trial *10.946.*

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

data:—

Builders' estimated I.H.P. Revols. per min.

Estimated Speed

2 in stand with a 3 in port. which are caulked only



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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

Diar. of 1st Reduction Pinion

Width

Pitch of Teeth

" 1st " Wheel

Estimated Pressure per lineal inch

Diar. 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.

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 Thrust Blocks
 No. of Rings
 Diar. of Thrust Shafts at bottom of Collars
 Forward Coupling
 At Aft Coupling
 No. of Collars
 Diar. of Thrust Shafts by Rule
 Actual
 No. of Lengths
 Diar. of Mid Lengths
 Diar. of Pitch Circle
 At Couplings
 Actual
 Diar. of Propeller Shafts by Rule
 Actual
 Are Propeller Shafts fitted with Continuous Brass Liners?
 Diar. over Liners
 Length of Aft Bearings
 Of what Material are the Aft Bearings composed?
 Are Means provided for indicating the Aft Bearings with Oil?
 Do Bearings run with the Stern Tubes?
 If so what type of bearings?

* For special this class of Power with double bearing



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SHAFTING.

Are the Crank Shafts Built or Solid? *Built*

No. of Lengths in each *3* Angle of Cranks *120°*

Diar. by Rule *11.8"* Actual *11.875"* In Way of Webs *12.125"*

" of Crank Pins *11.875"* Length between Webs *12"*

Greatest Width of Crank Webs *23"* Thickness *7.375" 7 1/16"*

Least " " *18"* " " *7 1/16"*

Diar. of *dowels* Keys in Crank Webs *2"* Length *5"*

" Dowels in Crank Pins — Length — Screwed or Plain —

No. of Bolts each Coupling *6* Diar. at Mid Length *2 7/8"* Diar. of Pitch Circle *17 3/4"*

Greatest Distance from Edge of Main Bearing to Crank Web *1/4"*

Type of Thrust Blocks *Horse-shoe multi collar fitted with **

No. " Rings *4* *bearing at each end*

Diar. of Thrust Shafts at bottom of Collars *12.125"* No. of Collars *4*

" " Forward Coupling *11.875"* At Aft Coupling *11.875"*

Diar. of Intermediate Shafting by Rule *11.237"* Actual *11.25"* No. of Lengths *5*

No. of Bolts, each Coupling *6* Diar. at Mid Length *2 7/8"* Diar. of Pitch Circle *17 3/4"*

Diar. of Propeller Shafts by Rule *12.57"* Actual *13.5"* At Couplings *11.875"*

Are Propeller Shafts fitted with Continuous Brass Liners? *Yes*

Diar. over Liners *14 7/8" & 15"* Length of After Bearings *66" 50.28"*

Of what Material are the After Bearings composed? *Legnum Nitae*

Are Means provided for lubricating the After Bearings with Oil? *No.*

" " to prevent Sea Water entering the Stern Tubes? *No.*

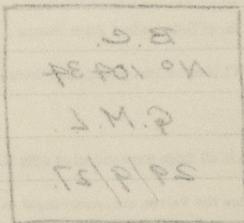
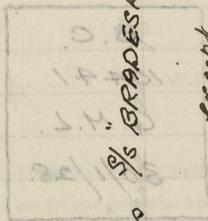
If so, what Type is adopted?

* 1st vessel this class of Rowans with double bearing

SKETCH OF CRANK SHAFT.

Same as 1/8 BRADSK (No 857) & 1/8 BARON SALTOON (No 863)

except NO crank pin dowels. Shrinkage 2/1000 per inch



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No. of Blades each Propeller *4* Fitted or Solid? *Solid*
 Material of Blades *Bronze* Boss *Bronze*
 Diar. of Propellers *16'-0"* Pitch *16'-0"* Surface (each *83* S. ft.
 Coefficient of Displacement of Vessel at $\frac{3}{4}$ Moulded Depth

Crank Shafts Forged by	<i>Henschel & Sohn</i>	Material	<i>I. S.</i>
" Pins "	" "	"	"
" Webs "	<i>Rheinische Westfalische</i>	"	"
* Thrust Shafts	<i>Butchhoffnungshutte</i>	"	"
Intermed. "	<i>Henschel & Sohn</i>	"	"
Propeller "	" "	"	"
Crank " Finished by	<i>S. Rowan & Co Ltd</i>		
Thrust " "	" "	"	"
Intermed. "	" "	"	"
Propeller "	" "	"	"

STAMP MARKS ON SHAFTS.

B.C.
 No 10437
 G.M.L.
 29/9/27.

B.C.
 10441
 G.M.L.
 30/11/28

1 crank shaft.
 1 thrust, 5 Intern.

1 prop. shaft.

Original thrust shaft used for No 854 $\frac{1}{2}$ " BARON

SKETCH OF PROPELLER SHAFT.

Same as $\frac{1}{2}$ " BARON SALTOUN (No 858)

COCHRANE

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PUMPS, ETC. OF SHIP

No. of Air Pumps *One* Diar. *18"* Stroke *21"*
 Worked by Main or Independent Engines? *main, from L.P. crosshead*

links.

No. of Circulating Pumps *One* Diar. *9"* Stroke *—*

Type of " *Centrifugal (Brysdale)*

Diar. of " Suction from Sea *9"*

Has each Pump a Bilge Suction with Non-return Valve? *Yes.* Diar. *6"*

What other Pumps can circulate through Condenser? *Ballast Pump.*

No. of Feed Pumps on Main Engine *2* Diar. *3 1/4"* Stroke *21"*

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. Stroke *Weir's*

What other Pumps can feed the Boilers? *General Service.*

No. of Bilge Pumps on Main Engine *2* Diar. *3 1/2"* Stroke *21"*

Can one Pump be overhauled while the others are at work? *Yes.*

No. of Independent Bilge Pumps *—*

What other Pumps can draw from the Bilges? *Ballast Pump.*

Are all Bilge Suctions fitted with Roses? *Yes, except where straight*

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.*

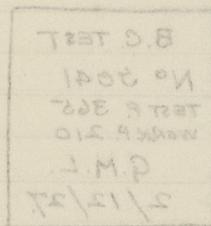
Are the Discharge Chests placed above or below the Deep Load Line? *Below (Siphon)*

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



leads with mud-box (4 in. E.R.)



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BOILERS.

Works No. 861

No. of Boilers 2 Type *Cylindrical Multitubular*

Single or Double-ended *Single-ended.*

No. of Furnaces in each 3.

Type of Furnaces *Seighton*

Date when Plan approved 15

Approved Working Pressure *210 lbs/0"*

Hydraulic Test Pressure *365 lbs/0"*

Date of Hydraulic Test *2/12/27.*

„ when Safety Valves set *2/3/28*

Pressure at which Valves were set *217 lbs/0"*

Date of Accumulation Test *2/3/28*

Maximum Pressure under Accumulation Test *218 lbs/0"*

System of Draught *Natural*

Can Boilers be worked separately? *Yes.*

Makers of Plates *Mannesmannrohren - Werke A.G.* ✓

„ Stay Bars *Vereingte Stahlwerke Ruhrort.* ✓

„ Rivets *Rivet Bolt & Nut Co Ltd*

„ Furnaces *John Marshall & Co Ltd* @

Greatest Internal Diam. of Boilers *15'-10 1/2"*

„ „ Length „ *11'-6"*

Square Feet of Heating Surface each Boiler *2563*

„ „ Grate „ „ *58.75-*

No. of Safety Valves each Boiler 2 Rule Diam. 3" Actual *3 1/4"*

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

No. of Pressure Ganges, each Boiler 1 No. of Water Ganges 2

„ Test Cocks „ 3 „ Salinometer Cocks 1

B. C. TEST
 No 5041
 TEST P. 365-
 WORK P. 210
 G. M. L.
 2/12/27.

- 2 BOILERS -

Are the Water Ganges fitted direct to the Boiler Shells or mounted on Flanges?

Are the Water Ganges fitted direct to the Boiler Shells or connected by Pipes?

Are these Pipes connected to Boilers by Cocks or Valves?

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

No. of Stakes of Shell Fluting in each Boiler

Plates in each Strake

Thickness of Shell Plates Approved

in Boilers

Are the Rivets Iron or Steel?

Are the Longitudinal Seams Butt or Lap Joints?

Are the Butt Straps Single or Double?

Are the Double Butt Straps of equal width?

Thickness of outside Butt Straps

inside

Are Longitudinal Seams Hand or Machine Riveted?

Are they Single, Double, or Triple Riveted?

No. of Rivets in a Pitch

Diam. of Rivet Heads

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Heads

No. of Rows of Rivets in Front and Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Heads

No. of Rows of Rivets in Back and Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Heads

Size of Rivets in Shell

Dimensions of Compensating Rings



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars?

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

Are these Pipes connected to Boilers by Cocks or Valves?

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

No. of Strakes of Shell Plating in each Boiler

Plates in each Strake

Thickness of Shell Plates Approved

in Boilers

Are the Rivets Iron or Steel?

Are the Longitudinal Seams Butt or Lap Joints?

Are the Butt Straps Single or Double?

Are the Double Butt Straps of equal width?

Thickness of outside Butt Straps

inside

Are Longitudinal Seams Hand or Machine Riveted?

Are they Single, Double, or Treble Riveted?

No. of Rivets in a Pitch

Diar. of Rivet Holes

Pitch

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes

Pitch

No. of Rows of Rivets in Front End Circumferential Seams

Are these Seams Hand or Machine riveted?

Diar. of Rivet Holes

Pitch

No. of Rows of Rivets in Back End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes

Pitch

Size of Manholes in Shell

Dimensions of Compensating Rings

Same as 3/4" BARON OG/LVY (No 841)

B.C. TEST
No 5041
TEST A 365
TEST B 210
G.M.L.
2/12/27
2 BOILERS

Thickness of End Plates in Steam Space Approved

in Boilers

Pitch of Steam Space Straps

Diar. of Approved

in Boilers

Material of

How are Stays Secured?

Diar. and Thickness of Loose Washers on End Plates

Riveted

Whip .. 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

in Boilers

Are Stays fitted with Nuts outside?

Thickness of Back End Plates at Bottom Approved

in Boilers

Pitch of Stays at Wide Spaces between Fireboxes

Thickness of Doublings

Thickness of Front End Plates at Bottom Approved

in Boilers

No. of Longitudinal Seams in Steam Space



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Thickness of End Plates in Steam Space Approved

" " " " " in Boilers

Pitch of Steam Space Stays

Diar. " " " " Approved 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 Threads per Inch

" " in Boilers

Material " "

Are Stays fitted with Nuts outside?

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

Same as 9/8 "BARON OGILVY" (No 84)

Threads per Inch

Dist. 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 Diam. of Tubes

Material

Thickness of Furnace Plates Approved

" " " " in Boilers

Smallest outside Diam. of Furnaces

Length between Tube Plates

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Pitch of Screwed Stays in C.C. Tubes

Diar. of Stays Approved Threads per Inch

" " 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 Combustion Chambers (Front to Back)

Thickness of " " Tops Approved

" " " in Boilers

Pitch of Screwed Stays in C.O. Tops

Same as 3/8 BARON O.G.L.V. (No 841)

Threads per Inch

Diar. of Screwed Stays Approved

" " " in Boilers

Material "

Thickness of Combustion Chamber Ends Approved

" " " in Boilers

Pitch of Screwed Stays in C.O. Stems

Diar. " " " Approved

" " " in Boilers

Material "

Thickness of Combustion Chamber Heads Approved

" " " in Boilers

Pitch of Screwed Stays in C.O. Backs

Diar. " " " Approved

" " " in Boilers

Material "

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

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

" " " Centre

Depth and Thickness of Girders

Material of Girders

No. of Stays in each

% of Tubes and Bolts

% of Tubes and Bolts

Size of Lower Flanges

Baron

3/8

Baron

3/8

Baron

3/8



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Diar. of Screwed Stays Approved Threads per Inch

" " " in Boilers

Material " "

Thickness of Combustion Chamber Sides Approved

" " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Diar. " " Approved Threads per Inch

" " " in Boilers

Material " "

Thickness of Combustion Chamber Backs Approved

" " " " in Boilers

Pitch of Screwed Stays in C.O. Backs

Diar. " " Approved Threads per Inch

" " " in Boilers

Material " "

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

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

" " " Centre "

Depth and Thickness of Girders

Material of Girders

No. of Stays in each

No. of Tubes, each Boiler

Size of Lower Manholes

Same as 1/8" BARON 091111 (No 84)

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 Heads 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 External Diar. Thickness

Material of Water Tubes

Size of Manholes in Shell

Dimensions of Compressing 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

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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

*None fitted.**not fitted.*

MAIN STEAM PIPES.

No. of Lengths	Material	Joined, Welded or Seamed?	Internal Diar.	Thickness	How are Flanges secured?	Date of Hydraulic Test	Test Pressure
2	Steel	L. W.	4 1/2"	1/4"	2 screws	22/1/22	830



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MAIN STEAM PIPES.

No. of Lengths	2		
Material	Steel		
Brazed, Welded or Seamless	L. W.		
Internal Diam.	4 1/2"		
Thickness	1/4"		
How are Flanges secured?	Secured		
Date of Hydraulic Test	22/2/28.		
Test Pressure	630		
Are Flanges Covered Fast or Unfast?	None fitted		
External Surface of Flanges Covered?			
No. of Lengths			
Material			
Brazed, Welded or Seamless			
Internal Diam.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			
SUPERHEATERS			
No. of Lengths			
Material			
Brazed, Welded or Seamless			
Internal Diam.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			

SPM EVAPORATORS. LIST

No.	10		
Type	Copper		
Capacity	20 Tons per Day		
Working Pressure	10 lbs/1"		
Date of Test of Safety Valves under Steam	10/9/28		
Date of Test	17/10/27		

FEED WATER HEATERS.

No.	19		
Type	19" Bond Contact		
Working Pressure	10 lbs/1"		
Date of Test	17/10/27		

FEED WATER FILTERS.

No.	210		
Type	High Pressure		
Working Pressure	210 lbs/1"		
Date of Test	22/11/27		



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REFRIGERATORS.

No. of Machines *2* Capacity of each *2*
 Makers *6 tank 6 crank*
 Description *12 stroke Steel Pump Valve 2*

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

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines or Independently
1 set

Check Shade
 Propeller Shaft
 Boiler Tubes

None filled

System of Refrigeration

Insulation

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

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.
Byrnes	73	74.5	10.00	1.50
Forward	20	30.5	6.00	1.00
Auxiliary	28	30.5	1.00	2.50
Wardroom	19	30.5	7.00	2.00
Navigation	17	30.5	7.00	1.50
Saloon	14	30.5	7.00	2.00
Deck	3	100.0	10.00	22.25

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



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 Foundation

REFRIGERATORS

No. of Machines	Time required to start after hours	Temp. of air in the room	Temp. of air in the room	COMMENTS
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No. of Water Columns, each Machine No. of Compressors No. of Cranks

Particulars of Design in connection with Refrigerating Plant and whether worked by Refrigerating Machine

Independently

System of Refrigeration

Refrigerant

Articles of Spare Gear for Refrigerating Plant carried on board

Are all Pipes, Air Trunks, &c., well secured and fastened to the hull or other structure?

Are all Hinges, Seams, and Air Pipes in the room properly secured and fastened?

Are Thermometer Tubes so arranged that Water cannot enter them?

Date of Test under Working Conditions

ELECTRIC LIGHTING.

Installation Fitted by *Jelford Brier & Mackay Ltd*
 No. and Description of Dynamoes *One compound wound protected type*
 Makers of Dynamoes *W. St. Allen & Sons & Co Ltd Bedford*
 Capacity " *43* Amperes, at *110* Volts, *330* Revols. per Min.
 Current Alternating or Continuous *Continuous*
 Single or Double Wire System *Double*
 Position of Dynamoes *Mid platform starboard side aft.*
 " Main Switch Board *on after bulkhead beside dynamo.*
 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>Dynamo</i>			<i>73</i>	<i>19/064</i>	<i>1217</i>	<i>100%</i>	<i>600 m.</i>
<i>Forward</i>	<i>20</i>	<i>30w</i>	<i>6</i>	<i>7/029</i>	<i>1332</i>	<i>100%</i>	<i>600 m.</i>
<i>Inguers & officers</i>	<i>28</i>	<i>30w</i>	<i>17</i>	<i>7/036</i>	<i>2430</i>	<i>100%</i>	<i>600 m.</i>
<i>Wireless</i>	<i>1</i>	<i>100w</i>	<i>14</i>	<i>7/036</i>	<i>2000</i>	<i>100%</i>	<i>600 m.</i>
<i>Navigation</i>	<i>14</i>	<i>various</i>	<i>8</i>	<i>7/029</i>	<i>2778</i>	<i>100%</i>	<i>600 m.</i>
<i>Saloon</i>	<i>34</i>	<i>30w</i>	<i>9</i>	<i>7/029</i>	<i>2000</i>	<i>100%</i>	<i>600 m.</i>
<i>Eng. room</i>	<i>26</i>	<i>30w</i>	<i>10</i>	<i>7/029</i>	<i>2222</i>	<i>100%</i>	<i>600 m.</i>
	<i>3</i>	<i>100w</i>					

Total No. of Lights *129* No. of Motors driving Fans, &c. — No. of Heaters —

Current required for Motors and Heaters —

Positions of Auxiliary Switch Boards, with No. of Switches on each *None*

Installation fitted by *W. H. Allen, 20 St. Andrew's Lane, London*
 No. and Description of Dynamos *Two 2000 watt dynamo for lighting and 2000 watt dynamo for engine*
 Makers of Dynamos *W. H. Allen, 20 St. Andrew's Lane, London*
 Capacity " *18* Amps at 110 Volts *330* Revs. per Min.
 Current Alternating or Continuous *Continuous*
 Single or Double Wire System *Double*
 Location of Dynamos *Two dynamo on deck in engine room*
 Main Switch Board *on deck in engine room*
 % of Circuits to which Switches are provided on Main Switch Board *100*

Number of Circuits	Current of Dynamos	Size of Conductors	Current of Dynamos	Location of Dynamos	Capacity	Makers of Dynamos	No. and Description of Dynamos	Installation fitted by
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Are Out-outs fitted as follows?—
 On Main Switch Board, to Cables of Main Circuits *Yes*
 On Aux. " " each Auxiliary Circuit *—*
 Wherever a Cable is reduced in size *Yes*
 To each Lamp Circuit *Yes*
 To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted *Yes*
 Are the Fuses of Standard Sizes? *Yes*
 Are all Switches and Cut-outs constructed of Non-inflammable Material? *Yes*
 Are they placed so as to be always and easily accessible? *Yes*
 Smallest Single Wire used, No. *1/18* S.W.G., Largest, No. *1/8* S.W.G.

How are Conductors in Engine and Boiler Spaces protected? *Arm'd + Lead covered.*
 " Saloons, State Rooms, &c., " ? *Lead covered.*

- What special protection is provided in the following cases?—
- (1) Conductors exposed to Heat or Damp *Arm'd*
 - (2) " " passing through Bunkers or Cargo Spaces *Arm'd + in tubing + white*
 - (3) " " Deck Beams or Bulkheads *Reamed holes in beam +*

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables is unimpaired? *None*
 Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? *Approved Plans*
 Are all Hull Connections for Single-Wire Systems made with Screws of large Surface? *It not five diam.*
 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? *175 megohms.* Ohms.
 Is the Installation supplied with a Voltmeter? *Yes*
 " " " an Ampere Meter? *Yes*
 Date of Trial of complete Installation *10/3/28* Duration of Trial *6 hours*
 Have all the requirements of Section 42 been satisfactorily carried out? *Yes*

Are the Mains used in the Construction of Engines and Boilers so far as could be seen, sound and trustworthy? *Yes*
 Approved by the Committee for the purpose of the examination? *Yes*

The above certificate is issued by the Registrar of the Corporation of Lloyd's Register of Shipping as a certificate of the examination of the vessel.

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request packed glands in W.T. bulkheads.

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: *Yes*

Have the Dynamometer Main and Branch Cables, so placed that the Compressors are only affected by them? *Yes*

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

Has the Installation Resistance over the whole system been tested? *Yes*

What does the Resistance amount to? *1.5 ohms*

Is the Installation supplied with a Voltmeter? *Yes*

as Ampere Meters? *Yes*

Date of Trial of complete Installation *10/8/28*

Have all the requirements of Section 12 been satisfactorily carried out? *Yes*

The Out-put listed as follows:-

On Main engine Board, to Cable of Main Circuits *Yes*

On Aux. ... each Auxiliary Circuit *Yes*

Whenever a Cable is replaced in air *Yes*

To each Lamp Circuit *Yes*

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*

Are they proved so as to be always and truly accurate? *Yes*

Smallest Gauge Wire used, No. *1/8* S.W.G., Largest, No. *1/8* S.W.G.

The above correctly describes the Machinery of the S.S. *"BARDON YARBOROUGH"*

as ascertained by *us* from personal examination *Lead covered*

What special protection is provided in the following cases:-

(1) Conductors exposed to Heat or Damage *Lead*

(2) ... *Geo. M. Luke*

Engineer Surveyor to the British Corporation for the

Survey and Registry of Shipping.

Fees-

MAIN BOILERS.

		£	s.	d.
H.S.	Sq. ft.	29	19	0
G.S.	"	:	:	:

DONKEY BOILERS.

H.S.	Sq. ft.	:	:	:
G.S.	"	:	:	:

£ 29 : 19 : 0

ENGINES.

L.P.O.	Cub. ft.	:	:	:
		£	:	:

Testing, &c.

£ 74 : 0 : 0

Expenses *Spec. Ind. 8* : 13 : 0

Total ... £ 82 : 13 : 0

It is submitted that this Report be approved,

Walter King
Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the *12* April 1928

Fees advised

Fees paid



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Foundation
Secretary.

GENERAL CONSTRUCTION

Have the Machinery and ...

Approved Plans? *Yes*

...

DONKEY BOLTERS

...

...

...

...

...

Testing fee ...

...

...

...

It is anticipated that this Report be approved.

Robert ...

...

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

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Robert ...



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