

No. 2391

10/277

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 2420 No. in Register Book 3853

S.S. "Rockabill"

Makers of Engines D. & W. Henderson & Co. Ltd.

Works No. 910 m.

Makers of Main Boilers Same.

Works No. "

Makers of Donkey Boiler Buchan & Co. (Aman) Ltd.

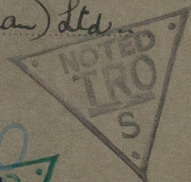
Works No. 11922.

MACHINERY.



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Report No. No. in Register Book

S.S. "Rockabill."

Makers of Engines D. & W. Henderson & Co. Ltd.

Works No. 910 m.

Makers of Main Boilers (same.)

Works No. "

Makers of Donkey Boiler Cochran & Co. (Annan) Ltd.

Works No.

MACHINERY.



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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

10th February 1931

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

"Rockabill."

Official No. 161940 Port of Registry Glasgow.

Registered Owners The Clyde Shipping Company Limited,

Engines Built by D. & W. Henderson & Company Limited,
at Finnieston, Glasgow.

Main Boilers Built by same firm
at " place.

Donkey Cochran & Company Limited,
at Annan.

Date of Completion 30/1/31.

First Visit 7/7/30. Last Visit 30/1/31. Total Visits 57.

RECIPROCATING ENGINES.

Works No.	No. of Sets	Description
910 m.	One	Triple expansion surface-condensing vertical steam.

No. of Cylinders ~~two~~ Engine 3 No. of Cranks 3
Diars of Cylinders 21", 34" & 56" Stroke 39"
Cubic feet in ~~one~~ L.P. Cylinder 55.57

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

" " each Receiver? *Top M.P. and L.P. only.*

Type of H P. Valves, *Piston*
 I.P. " *Andrew & Cameron.*
 Seal I.P.,
 L.P. " *D. P. Slide.*
 Valve Gear *Stevenson's Link Motion*

" Condenser *Cyl. riveted steel.* Cooling Surface **2306** sq. ft.
Diameter of Piston Rods (plain part) **5½"** Screwed part (bottom of thread) **4¾"**

Material	"	S. M. Steel	
Diat. of Connecting Rods (smallest part)		5 1/2"	Material S. M. Steel

"	Crosshead Gudgeons	6 $\frac{1}{4}$ "	Length of Bearing	7"	Material	nc. m.
No. of Crosshead Bolts (each)	4	Diam. over Thrd.	2 $\frac{1}{2}$ "	Thrus. per inch	6	Material Steel.
"	Crank Pin	"	"	2 $\frac{3}{4}$ "	"	6' " "

„ Main Bearings 6 Lengths 1'-0 1/2"
 „ Bolts in each 2 ✓ Diam. over Thread 2 1/2" Threads per inch 6 Material "
 „ Holding Down Bolts 97 ~~and Engine~~ Diam. 1 1/4" No. of Metal Chocks

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?

If not, how are they fitted?

Connecting Rods, Forged by	Wm Beardmore & Co. Ltd.
Piston " "	David Colville & Sons Ltd.
Crossheads, " "	Wm Beardmore & Co. Ltd.
Connecting Rods, Finished by	D. & W. Henderson & Co. Ltd.

Piston	"	"	"
Crossheads,	"	"	"

Date of Harbour Trial 26th December, 1930.

„ Trial Trip 29th January, 1931.

Trials run at *Skelmorlie Mill & Firth of Clyde.*

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

If so, what was the I.H.P.? 1822. Revols. per min. 103.75

Pressure in ~~the~~ ^{H.P.} Receiver, 175 lbs., and I.P., 66 lbs., L.P., 11½ lbs., Vacuum, 25⅔ ins.

Speed on Trial *13.74 knots.*

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

Builders' estimated I.H.P. 1800 @ Revs. per min. 102

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TURBINE ENGINES.

Works No. Type of Turbines

No. of H.P. Turbines No. of L.P. No. of A.Stern

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

" 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 H.P. Turbines at Full Power

S.H.P.

" " L.P. " "

" " L.P. " "

" " 1st Reduction Shaft

" " 2nd " "

" " Propeller Shaft

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

DESCRIPTION OF INSTALLATION.

TURBO-ELECTRIC MACHINERY

No. of Turbo-Electric Sets Capacity of each

Type of Turbines employed

Description of Connection

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

DESCRIPTION OF INSTALLATION.

Diam. of 1st Reduction Pinion

" 1st " Wheel

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion

" 2nd " Wheel

Estimated Pressure per lineal inch

Revs. per min. of Motors at Full Power

" " " "

" 1st Reduction Shaft

" 2nd " "

" " " "

Total Shaft Horse Power

Date of Harbour Trial

Trials run at

Speed on Trial

Knots. Propeller Revs. per min.

S.H.P.



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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.

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.



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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

10.98"

Actual

11 1/2"

In Way of Webs

11 1/2"

" of Crank Pins

11 1/2"

Length between Webs

1'-1 3/4"

Greatest Width of Crank Webs

1'-9"

Thickness

8"

Least

*1'-9"**8"*Diar. of ~~in~~ Crank Webs*1 3/4"*

Length

5"

" Dowels in Crank Pins

1 1/4"

Length

Screwed or Plain

Plain.

No. of Bolts each Coupling

6

Diar. at Mid Length

2 3/4"

Diar. of Pitch Circle

1'-5"

Greatest Distance from Edge of Main Bearing to Crank Web

3/8"

Type of Thrust Block

Mitchell.

No.

" Rings

One.

Diar. of Thrust Shafts at bottom of Collars

11 1/2"

No. of Collars

One

" " Forward Coupling

11 1/2"

At Aft Coupling

11 1/2"

Diar. of Intermediate Shafting by Rule

10.45"

Actual

11"

No. of Lengths

3

No. of Bolts, each Coupling

6

Diar. at Mid Length

2 3/4"

Diar. of Pitch Circle

1'-5"

Diar. of Propeller Shaft by Rule

11.61"

Actual

12"

At Coupling

1'-0 1/8"

Is Propeller Shaft fitted with Continuous Brass Liner?

Yes.

Diar. over Liner

1'-1 1/2"

Length of After Bearing

4'-0"

Of what Material are the After Bearings composed?

Lignum Vitae

Are Means provided for lubricating the After Bearings with Oil?

No.

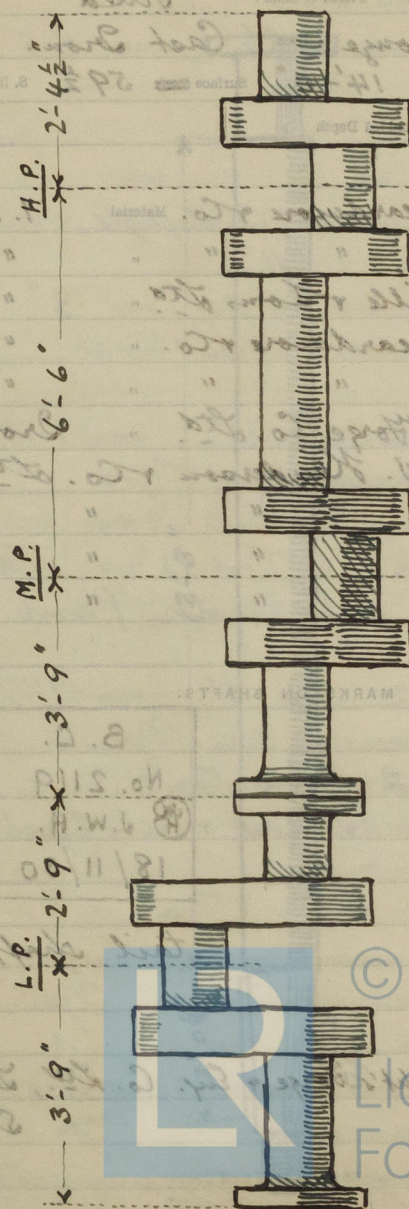
" " to prevent Sea Water entering the Stern Tubes?

"

If so, what Type is adopted?

✓

SKETCH OF CRANK SHAFT.



B.C.B.
 No. 5117
 E.2.
 50/10/30

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No. of Blades ~~4~~ Propeller *4* Fitted or Solid? *Fitted*
 Material of Blades *Mang. Bronze* Boss *Cast Iron*
 Diam. of Propeller *14'-0"* Pitch *14'-0"* Surface *59 1/2* S. ft.)
 Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth

Crank Shafts Forged by *Wm Beardmore & Co.* Material *I. S.*
 „ Pins „ „ „ „ „
 „ Webs „ *D. Colville & Sons Ltd* „ „
 Thrust Shafts „ *Wm Beardmore & Co.* „ „
 Intermed. „ „ „ „ „
 * Propeller „ „ *Langley Forge Co. Ltd.* „ *Iron*
 Crank „ Finished by *D. W. Henderson & Co. Ltd.*
 Thrust „ „ „ „ „
 Intermed. „ „ „ „ „
 Propeller „ „ „ „ „

STAMP MARKS ON SHAFTS.

B. C.
 No. 2117
 E. S. (E)
 20/10/30

B. C.
 No. 2119
 (W) J. W. H.
 18/11/30

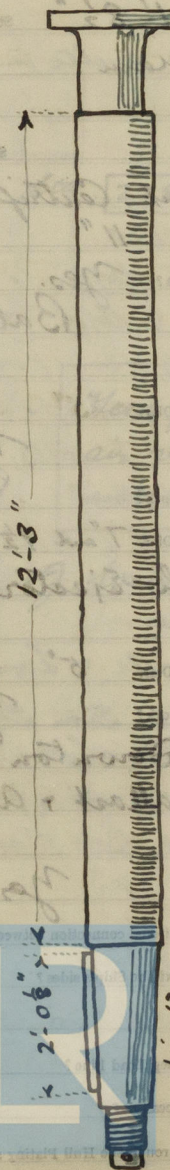
One Thrust &
 3 intermediate.

tail shaft.

* Sub. contracted to Wright's Forge & Eng. Co. Ltd., Lipton, Staffs.

crank shaft, see p. 38

SKETCH OF PROPELLER SHAFT.



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PUMPS, ETC.

No. of Air Pumps *One* Diar. *1'-8½"* Stroke *1'-8"*

Worked by Main or Independent Engines? *Main*

No. of Circulating Pumps *One* Diar. Stroke

Type of " *Independent Centrifugal, made by*

Diar. of " *Suction from Sea*

Has each Pump a Bilge Suction with Non-return Valve? *Yes.* Diar. *8"*

What other Pumps can circulate through Condenser? *Ballast*

No. of Feed Pumps on Main Engine *2* Diar. *5"* Stroke *1'-8"*

Are Spring-loaded Relief Valves fitted to each Pump? *Yes.*

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

No. of Independent Feed Pumps *2* Diar. *7" and 9½"* Stroke *1'-9"*

What other Pumps can feed the Boilers? *Ash Ejector Pump*

No. of Bilge Pumps on Main Engine *2* Diar. *5"* Stroke *1'-8"*

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

No. of Independent Bilge Pumps *2 Downton*

What other Pumps can draw from the Bilges? *Ballast & Ash Ejector*

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? *"*

Are the Discharge Chests placed above or below the Deep Load Line? *Below.*

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


Drysdale & Co. Ltd. **22867** (Single cyl. strain eng.)

16 tons/hour.

1/98004 forward
2/98004 aft.

by G. & J. Weir Ltd.

16 tons/hour

*Feed pump barrels, chests, &
air vessels tested at 463 lb/sq. in.
and stamped  24/11/30.*



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BOILERS

Works No. **910 m.**

No. of Boilers **2** Type **Cyl. multi tubular**

Single or Double-ended **Single**

No. of Furnaces in each **3** **(COAL.)**

Type of Furnaces **Deighton**

Date when Plan approved **20/6/30.**

Approved Working Pressure **185 lb/□"**

Hydraulic Test Pressure **327½ lb/□" (say 330 lb.)**

Date of Hydraulic Test **Starboard 25/11/30; Port 2/12/30**

" when Safety Valves set **26/12/30.**

Pressure at which Valves were set **187 lb/□" (R.L.G.)**

Date of Accumulation Test **26/12/30**

Maximum Pressure under Accumulation Test **187 lb/□" (R.L.G.)**

System of Draught **F.D., c.a. (Howden's)**

Can Boilers be worked separately? **Yes.**

Makers of Plates **David Colville & Sons Ltd.**

Iron Stays, Best Yorkshire Iron Ltd., Bradford

Steel Stay Bars David Colville & Sons Ltd.

" Rivets **John Marshall & Co. (Motherwell) Ltd.**

" Furnaces **North West Rivet, Bolt & Nut Factory Ltd.**

Greatest Internal Diam. of Boilers **15'-0"**

" " Length " **13'-0"**

Square Feet of Heating Surface each Boiler **2504.226**

" " Grate " " **61.875**

No. of Safety Valves each Boiler **2** Rule Diam. **2.23** Actual **2¼" (High lift)**

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

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

" Test Cocks " " Salinometer Cocks

- STARBOARD -

B.C. TEST
No. 5463
328 lb.
W.P. 185 lb.
(JW H) J.W.H.
25/11/30

- PORT. -

B.C. TEST
No. 5464
etc.
etc.
(JW H) etc.
2/12/30.

Van **8889** Single cyl. steam eng. **10936** by
James Howden & Co. Ltd.

Compression Rings; -

Port boiler.

Aft **½"** (full)
Forew. do.

Starboard boiler.

Aft **3/8"**
Forew? **½"** (R.L.G.)



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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

Diam. of Rivet Holes

Pitch

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Holes

Pitch

No. of Rows of Rivets in Front End Circumferential Seams

Are these Seams Hand or Machine riveted?

Diam. of Rivet Holes

Pitch

No. of Rows of Rivets in Back End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Holes

Pitch

Size of Manholes in Shell

Dimensions of Compensating Rings

Pillars.
Direct.

Values on back ends?

One

2

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

"

Steel

Butt

Double

yes.

$\frac{31}{32}$ "

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

Machine.

Treble.

5

$9\frac{1}{4}$ "

✓

✓

✓

2

Machine.

3.92"

2

Machine.

3.92"

$16" \times 12"$

$3'-6" \times 3'-0" \times 1\frac{9}{32}"$

Water gauge

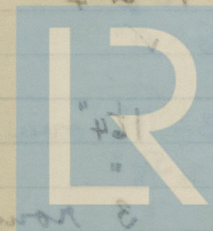
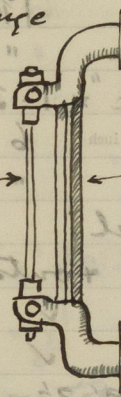
Pillar.

(4 off, G.M.)

Gauge glass

Solid

(section)



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Thickness of End Plates in Steam Space Approved

 $1\frac{3}{16}$ "

" " " " in Boilers

Pitch of Steam Space Stays

 $1'-9" \times 1'-3\frac{1}{2}"$

Diar. " " " Approved

 $2\frac{7}{8}"$

Threads per inch

6

" " " " in Boilers

Material of " " "

Steel.

How are Stays Secured?

Nuts inside & outside. (Thin loose washers.)

Diar. and Thickness of Loose Washers on End Plates

✓

loose washers.)

" " Riveted " "

✓

Width " " Doubling Strips

 $2'-9" \times 2'-3\frac{1}{2}" \times \frac{13}{16}"$ in way of

Thickness of Middle Back End Plates Approved

✓

" " " " in Boilers

✓

Thickness of Doublings in Wide Spaces between Fireboxes

✓

Pitch of Stays at

 $1'-2\frac{3}{4}"$

Diar. of Stays Approved

 $1\frac{7}{8}"$

Threads per inch

9

" " in Boilers

Material "

Low moor tested iron.

Are Stays fitted with Nuts outside?

Yes.

Thickness of Back End Plates at Bottom Approved

 $\frac{7}{8}"$

" " " " in Boilers

"

Pitch of Stays at Wide Spaces between Fireboxes

 $1'-2\frac{3}{4}"$

Thickness of Doublings in

✓

Thickness of Front End Plates at Bottom Approved

 $1\frac{1}{4}"$

" " " " in Boilers

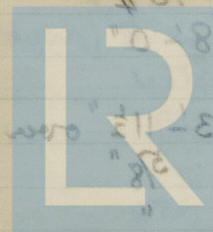
"

No. of Longitudinal Stays in Spaces between Furnaces

3 round each

of 2 bottom manholes.

stop valve, on top back-end plate.

(All c.c. stays tested to $2\frac{1}{2}$ tons/sq. in.)

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Diam. of Stays Approved *one 2 1/4"*
two 2" Threads per Inch *6*

" " in Boilers

do.

Material

Steel.

Thickness of Front Tube Plates Approved

1 1/4"

" " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

1'-2 3/4" x 8"

Thickness of Doublings in

1"

" Stay Tubes at

3/8"

Are Stay Tubes fitted with Nuts at Front End

Only 8 top corner wide space

(76" thick).

Thickness of Back Tube Plates Approved

1 3/16"

" " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

1'-0" x 8"

" Plain "

4" x 4"

Thickness of Stay Tubes

5/16"

" Plain "

8 W.G.

External Diam. of Tubes

2 3/4"

Material

Lapwelded iron.

Thickness of Furnace Plates Approved

5/8"

" " " in Boilers

Smallest outside Diam. of Furnaces

3'-10 1/4"

Length between Tube Plates

8'-0"

Width of Combustion Chambers (Front to Back)

3'-11 1/2" over plates.

Thickness of " " Tops Approved

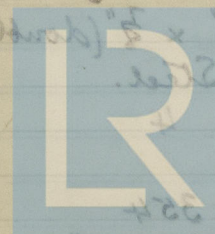
5/8"

" " " in Boilers

Pitch of Screwed Stays in C.O. Tops

9" x 7"

(parallel.)



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Diar. of Screwed Stays Approved

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

Threads per Inch

9

" " " in Boilers

"

"

Material " "

Lowmoor iron.

Thickness of Combustion Chamber Sides Approved

 $\frac{5}{8}"$

" " " in Boilers

"

Pitch of Screwed Stays in C.O. Sides

 $9" \times 8"$

Diar. " " Approved

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

Threads per Inch

9

" " " in Boilers

"

"

Material " "

Lowmoor iron.

Thickness of Combustion Chamber Backs Approved

 $\frac{5}{8}"$

" " " in Boilers

"

Pitch of Screwed Stays in C.O. Backs

 $8\frac{1}{4}"$

Diar. " " Approved

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

Threads per Inch

9

" " " in Boilers

"

"

Material " "

Lowmoor iron.

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

Yes.
 $1\frac{3}{16}"$

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

5

" " " Centre "

3

Depth and Thickness of Girders

 $10\frac{3}{8}" \times \frac{7}{8}"$ (double; plates.)

Material of Girders

Steel.

No. of Stays in each

4

No. of Tubes, each Boiler

354

Size of Lower Manholes

 $16" \times 12"$

VERTICAL DONKEY BOILERS

No. of Boilers Over the Vertical (Donkey to 200)

Height of Boilers above the Ground

Height of Boilers above the Ground

Height of Boilers above the Ground

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Height of Boilers above the Ground



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VERTICAL DONKEY BOILERS.

No. of Boilers *One* Type *Vertical (Cochran & Co. Ltd.)*
 Greatest Int. Diar. *8'-0"* Height *16'-6"*
 Height of Boiler Crown above Fire Grate *14'-3 3/4"*
 Are Boiler Crowns Flat or Dished? *Dished.*
 Internal Radius of Dished Ends *4'-0"* Thickness of Plates *1/2" and 1" (crown side, stop respectively.)*
 Description of Seams in Boiler Crowns *Lap Joints Single Rivetted.*
 Diar. of Rivet Holes *29/32"* Pitch *2 1/8"* Width of Overlap *2 3/4"*
 Height of Firebox Crowns above Fire Grate *3'-3" (approx.)*
 Are Firebox Crowns Flat or Dished? *Dished. (hemispherical)*
 External Radius of Dished Crowns *3'-6"* Thickness of Plates *5/8"*
 No. of Crown Stays *-* Diar. *-* Material *-*
 External Diar. of Firebox at Top *-* Bottom *-* Thickness of Plates *-*
 No. of Water Tubes *224* Ext. Diar. *2 1/2"* Thickness *33 @ 1/32, 191 @ 1/16 L.S.G.*
 Material of Water Tubes *IRON.*
 Size of Manhole in Shell *16" x 12"*
 Dimensions of Compensating Ring *2'-4" Dia. x 3 7/32"*
 Heating Surface, each Boiler *850 sq* Grate Surface *37 sq*

SUPERHEATERS.

Description of Superheaters

(None.)

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

E
(working. test) volume 2
2 1/2"
1/4"
(double, plates)
 No. 11922.
 B.C. TEST.
 No. 5459.
 200 lbs.
 W.P. 100 lbs.
 E.S. (E.S.)
 29/10/30
 Safety valves set at the
 W.P. on 26/10/30.
 Compression rings:-
 Port *17/32" (full)*
 Starb? do. *(R.L.G.)*



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MAIN STEAM PIPES.

No. of Lengths *One 3 Centrifugal (Cochran & Co. Ltd.)*

Material *Steel*

Brazed, Welded or Seamless *Seamless (hot finished)*

Internal Diam. *5½"*

Thickness *¼"*

How are Flanges secured? *Screwed (vanishing thread)*

Date of Hydraulic Test *one length 3/12/30; two lengths 20/12/30.*

Test Pressure *555 lb/□.*

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

LIST OF EVAPORATORS.

Ballast, 8" cyl., 7" pump, 9" stroke, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

J.H. Ballast, 8" cyl., 7" pump, 9" stroke, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

Fresh water, 4½" cyl., 4½" pump, 5" stroke, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

duplex, 25 ton/hour, same make.

FEED WATER HEATERS.

One No. 1, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 2, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 3, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 4, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 5, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

FEED WATER FILTERS.

One No. 1, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 2, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 3, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 4, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 5, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

BILGES.

Pumping arrangements fitted 27/1/31, with 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 1, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 2, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 3, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 4, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

One No. 5, 1000 lbs. capacity, 2 1/2 ton/hour, 250 lb/□.

EVAPORATORS.

No.	Type	Tons per Day
Makers	Steel ✓	
Working Pressure	Test Pressure	Date of Test
Date of Test of Safety Valves under Steam		

FEED WATER HEATERS.

No.	One	Type	Direct - Contact	98003
Makers	G. & J. Weir Ltd.			
Working Pressure	20 lb/□	Test Pressure	40 lb/□	Date of Test 13/10/30 (R.L.G.)

FEED WATER FILTERS.

No.	One	Type	Gravity	Size
Makers	D. & W. Henderson & Co. Ltd.			
Working Pressure	✓	Test Pressure	✓	Date of Test ✓

STEERING GEAR.

One 2 cyl. inverted vert. steam, worm & wheel on R. & L. screw gear direct to crosshead on rudder stock, by Caldwell & Co. Ltd. (no buffer gear.)

Tested under steam 27/1/31.

LIST OF DONKEY PUMPS.

8245

Ballast; 8" cyl., 9" pump, 9" stroke, vert. duplex, 130 tons/hour; made by J.H. Carruthers and Company Limited.

8246

Fresh Water; 4½" cyl., 4½" pump, 5" stroke, vert. duplex, 25 tons/hour; same makers.

8248

Ash Ejector; 8" cyl., 5" pump, 8" stroke, vert. duplex, 32 tons/hour; same makers.

8247

Donkey Boiler Feed; 4½" cyl., 3" pump, 5" stroke, vert. duplex, 5.8 tons/hour; same makers.

BILGES.

Pumping arrangements tested 27/1/31 with ballast pump. Spaces pumped out - No. 1 hold Port & Starb., no. 2 hold well, aft hold well; tunnel well, eng. room P. & S., stokehold P., Centre, & S.



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OTHER ARTICLES OF SPARE GEAR:—

- 4 valves for Wier's feed pumps. (2 each)
- 1 feed check valve for Donkey Boiler.
- 1 Safety valve spring " "
- 1 set gratings & firebars " "
- steel plate, various sizes.
- iron bar, " " "
- 3 relief valve springs.
- 1 spring for ash ejector pump.
- 6 nuts of each size used for boilers.
- 1 set propeller boss studs, nuts & pins. (9)
- 1 " spare segments for ash ejector.
- 1 cwt. assorted bolts, nuts, & washers.

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REFRIGERATORS.

No. of Machines *One* Capacity ~~about~~ ** 2 tons of ice per 24 hours*
 Makers *J. & E. Hall Ltd., Dartford.* 8366
 Description *no. 7 marine type C.O₂ Single vent.*

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

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

*Brine & water pumps driven off end of
 crankshaft.*

System of Refrigeration

Brine.

Insulation

Granulated cork.

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

Spaces?

Yes.

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

Yes.

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?

Yes.

Date of Test under Working Conditions

28th January, 1931.

** with condensing water at 55° F.*

RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.				Temp. at end of Trial.				Time required to obtain this Result.	Rise of Temp. after 2 hours.
	Forw?	Off.	Forw?	Off.	Forw?	Off.	Forw?	Off.		
After lower hold, about 7000 cub. ft. clear space. (butter.)	50	50	50	50	20	19	18	18	7 ³ / ₄ hours.	4° F.
All brine pipes tested for leakage under an air pressure of 90 lb/sq" on 16/1/31 & found tight.										

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

*4 piston rings
 2" x 3/8" x 3/32"; 7 metallic rings; 2 lubricator
 piston leathers; 2 do. gland do.; 4 compressor
 valves; 12 springs, no. 4; 1 guide for valves;
 1 do.; 17 various copper joint rings; 2 sets
 Kinghorn valves; 4 sets do.; 1 spring, no. 197;
 1 do. no. 6; 6 safety discs; 1 spring, no. 78.*

REFRIGERATORS

Single cyl. steam engine 106/1930 by
 Alex. Shanks & Son Ltd., Arbroath.

ELECTRIC LIGHTING.

Installation Fitted by **Harland & Wolff Ltd.**
 No. and Description of Dynamos **One type C.12 Compound 21.6 K.W.**
 Makers of Dynamos **Bruce Peebles & Co. Ltd., Edinburgh** 27006
 Capacity „ **196** Amperes, at **110** Volts, **250** Revols. per Min.
 Current Alternating or Continuous **Continuous.**
 Single or Double Wire System **Double.**
 Position of Dynamo **Starboard side of engine room.**
 „ Main Switch Board **Beside dynamo.**
 No. of Circuits to which Switches are provided on Main Switch Board **10**
 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>Megohms.</i>
Navigation.	11 and 1 more	B. & T. require's.	4.5	7/029	I.E.E. standard.	.0045	9.432
First Class & Officers' Accom.	88	40 + 60 watts.	30	7/044	"	.01	4.097
Crew.	37	40 + 60 watts.	13.6	7/029	"	.0045	9.432
Main Deck.	30	60 watts.	16.4	7/036	"	.007	6.121
Fore hold & Tween deck.	11	"	6	3/	"	.003	14.323
Main hold & Tween deck.	18	"	9.8	3/	"	"	"
Off hold & Tween deck.	15	"	8.2	3/	"	"	"
Engine & boiler rooms.	40	40 + 60 watts.	16.4	7/029	"	.0045	9.432
Cargo.	3	500 watts.	13.6	"	"	"	"
Vent. fans.	✓	✓	✓	7/036	"	.007	6.121

Total No. of Lights

253

and one more.

No. of Motors driving Fans, &c.

10

No. of Heaters

✓

Current required for Motors and Heaters

27.2

amps.

Positions of Auxiliary Switch Boards, with No. of Switches on each *for lighting circuits;-*

2 in accommodation, fore-castle deck, with 5 switches for passage & deck lights;

One in crew accommodation forward, with 4 switches for twelve deck & hold;

One in engine room entrance, main deck, with 14 switches for main deck, twelve decks, & holds;

One in engine room, bottom platform, with 8 switches engine & boiler room lighting.

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. *37/093* 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 *Run on perforated sheet iron trays.*

(2) " passing through *Bunkers or Cargo Spaces* *L.C., A. & B. run in bosom of beams.*

(3) " " Deck Beams or Bulkheads *(non W.T.) Bushed with lead.*

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

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

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

* Dynamos only, 4 $\frac{1}{2}$ Megohms.
(500 volt megger used.)

Governor trial 30/1/31 with [†] full load of 120 amps. (cattle space fans, cargo clusters, portable lights in holds & machinery spaces; in addition to navigation & accommodation lights and lighting of nifty spaces, etc.)

[†] actually the full load should total 118.5 amps for lights + 27.2 amps. for motors = 145.7 amps.

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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? *Yes.*

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

Surveyor. *—*

One in engine room and 1/2 main deck

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

One in engine room

Fees—

MAIN BOILERS.

	£	s.	d.
H.S.	Sq. ft.	:	:
G.S.	"	:	:

DONKEY BOILERS.

H.S.	Sq. ft.	:	:
G.S.	"	:	:
	£	:	:

ENGINES.

L.P.C.	Cub. ft.	:	:
	£	:	:
Testing, &c. ...		:	:
	£	:	:
Expenses ...		:	:
Total ...	£	:	:

It is submitted that this Report be approved,

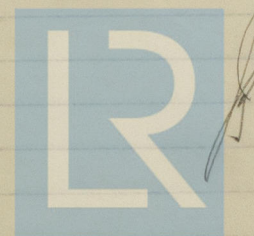
Chief Surveyor.

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

14th March 1931.

Fees advised

Fees paid



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Secretary.

"ROCKABILL"

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

* as ascertained by me from personal examination

J. Wood Harrington.

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

* except during period 18/9/30 to 10/11/30—E. Souchoff.

GENERAL CONSTRUCTION

U.S. ...

U.S. ...

U.S. ...

U.S. ...

Testing ...

U.S. ...

U.S. ...

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7 July	24/11/30
8 "	25 "
11 "	28 "
15 "	2/12/30.
1 Aug.	3 "
8 "	5 "
15 "	8 "
22 "	11 "
26 "	18 "
2/9/30.	23 "
16 "	24 "
24 "	26 "
30 "	30 "
1/10/30	16/1/31.
6 "	23 "
7 "	27 "
7 " (Cochman's)	28 "
10 "	29 "
13 "	30 "
14 "	
15 "	
16 "	
17 "	
20 "	
21 "	
24 "	
28 "	
29 " (Cochran's)	
30 "	
31 "	
5/11/30	
6 "	
7 "	
10 "	
13 "	
14 "	
17 "	
18 "	

57 visits



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