

## REPORT ON MACHINERY.

No. 44108

Received at London Office 29 OCT 1924

Date of writing Report 25<sup>th</sup> Oct. 1924 When handed in at Local Office 25<sup>th</sup> Oct. 1924 Port of Glasgow.

No. in Survey held at Reg. Book.

Glasgow

Date, First Survey 26 3 1924 Last Survey 10 10 1924.

(Number of Visits 25)

S 88263 on the

S.S. "CARLBETH"

Tons } Gross 2110  
Net 1250  
When built 1924.

Master

Built at Burntisland

By whom built Burntisland L.C. Co. Ltd.

Engines made at

Glasgow

By whom made

D. Rowan &amp; Co. Ltd. (No. 798)

when made 1924.

Boilers made at

Glasgow

By whom made

D. Rowan &amp; Co. Ltd. (No. 798)

when made 1924.

Registered Horse Power

Owners J. L. Duff &amp; Co.

Port belonging to Glasgow.

Nom. Horse Power as per Section 28

220

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

## ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders

20"-33"-54"

Length of Stroke

36"

Revs. per minute

-79

Dia. of Screw shaft

as per rule 11.43

Material of screw shaft

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes

Is the after end of the liner made water tight

in the propeller boss

Yes

If the liner is in more than one length are the joints burned

-

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

charged

If two

liners are fitted, is the shaft lapped or protected between the liners

-

Length of stern bush

3'-10"

NO OILGLAND

Dia. of Tunnel shaft

as per rule 9.94

Dia. of Crank shaft journals

as per rule 10.43

Dia. of Crank pin

11"

Size of Crank webs

16" x 6 3/4"

Dia. of thrust shaft under

collars

10 3/4"

Dia. of screw

14'-4"

Pitch of Screw

15'-3"

No. of Blades

4

State whether moveable

No

Total surface

68.6 sq ft

No. of Feed pumps

2

Diameter of ditto

3"

Stroke

18"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2"

Stroke

18"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

8 1/2" x 11" x 18"

7 1/2" x 5" x 8"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

-

3-2 1/2"

1-4" special

1-2 1/2" tunnel well

Holds, &amp;c.

-

Forehold

2-3"

after hold

3-3"

-

No. of Bilge Injections

One

size

4 1/2"

Connected to condenser, or to circulating pump

Pump

Is a separate Donkey Suction fitted in Engine room &amp; size

Yes - 4"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

-

Are all connections with the sea direct on the skin of the ship

Yes

Are they Valves or Cocks

-

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Yes

Are the Discharge Pipes above or below the deep water line

above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

What pipes are carried through the bunkers

-

none

How are they protected

-

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Yes

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Dep. platform

## BOILERS, &amp;c.—(Letter for record S.)

Manufacturers of Steel

Port of

Glasgow

Steel Co. Ltd.

The Lanarkshire Steel Co. Ltd.

25B.

Total Heating Surface of Boilers

3804 sq ft

Is Forced Draft fitted

No

No. and Description of Boilers

Two Single-Ended

Working Pressure

180 lbs./sq. in.

Tested by hydraulic pressure to

320 lbs./sq. in.

Date of test

23.9.24

No. of Certificate

16612

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

5.5 sq ft

No. and Description of Safety Valves to

each boiler

Two Spring loaded

Area of each valve

7.06 sq in.

Pressure to which they are adjusted

185 LBS.

Are they fitted with easing gear

Yes

Smallest distance between boilers

-

upstays and bunkers

-

18"

Mean dia. of boilers

14'-3 3/4"

Length

10'-6"

Material of shell plates

Steel

Thickness

1 1/4"

Range of tensile strength

28/32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D.R. LAP

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 3/32"

Lap of plates or

width of butt straps

18 1/2"

Per centages of strength of longitudinal joint

rivets 93.4

plates 85.6

Combined 89.8

Working pressure of shell by rules

180 lbs./sq. in.

Size of manhole in shell

19 1/2" x 15 1/2"

Size of compensating ring

2'-10" x 2'-6" x 1 1/4"

No. and Description of Furnaces in each boiler

Three Beighton

Material

Steel

Outside diameter

3'-5 3/4"

Length of plain part

top

bottom

Thickness of plates

38"

Description of longitudinal joint

weld

No. of strengthening rings

None

Working pressure of furnace by the rules

181 lbs./sq. in.

Combustion chamber plates: Material

Steel

Thickness: Sides

23/32"

Back

21/32"

Top

23/32"

Bottom

23/32"

Pitch of stays to ditto: Sides

10 1/4" x 9 1/2"

Back

9 1/4" x 8 3/8"

Top

10 1/4" x 9 1/2"

If stays are fitted with nuts or riveted heads

None

Working pressure by rules

182 lbs./sq. in.

Material of stays

Steel

DIA. OVER THREADS

1 5/8" x 1 1/4"

Area supported by each stay

82" x 97.3"

Working pressure by rules

185 lbs./sq. in.

End plates in steam space:

Material

Steel

Thickness

1 3/32"

Pitch of stays

19" x 20"

How are stays secured

D. Nuts

Working pressure by rules

182 lbs./sq. in.

Material of stays

Steel

DIA. AT BODY

3" x 2 3/4"

Area supported by each stay

360 sq in.

Working pressure by rules

182 lbs./sq. in.

Material of Front plates at bottom

Steel

Thickness

27/32"

Material of Lower back plate

Steel

Thickness

3/4"

Greatest pitch of stays

13 3/8" x 8 3/8"

Working pressure of plate by rules

182 lbs./sq. in.

Diameter of tubes

3 1/4"

Pitch of tubes

4 3/8" x 4 1/2"

Material of tube plates

Steel

Thickness: Front

27/32"

Back

23/32"

Mean pitch of stays

10"

Pitch across side water spaces

1 1/2"

Working pressures by rules

181 lbs./sq. in.

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

7 1/2" x 28 7/8"

Length as per rule

2'-7 5/8"

Distance apart

9 1/2"

Number and pitch of stays in each

20/10 1/4"

Working pressure by rules

182 lbs./sq. in.

Steam dome: description of joint to shell

None

% of strength of joint

-

Diameter

-

Thickness of plates

-

Material

-

Description of longitudinal joint

-

Diam. of rivet holes

-

Pitch of rivets

-

Working pressure of shell by rules

-

Crown plates

-

Thickness

-

How stayed

-



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IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? —

SPARE GEAR. State the articles supplied:— *All as per Rule requirements and, in addition, one propeller and a quantity of small gear.*

The foregoing is a correct description,  
*For David Rowan & Co. Ltd*  
*Arch<sup>d</sup> W. Grierson* Manufacturer.

Dates of Survey while building { During progress of work in shops -- *1924 Mar 26 28 Jun 11 Jul 9 10 15 30 Aug 4 11 12 20 22 27 Sep 1 3 5 11 12 15 19 23 26 30 Oct 7 10*  
During erection on board vessel -- *Leith 18-9-24, 14-10-24, 17-10-24, 30-10-24, 4-11-24, 6-12-24 = 6 visits*  
Total No. of visits *25*

Is the approved plan of main boiler forwarded herewith *yes*.

" " " donkey " " " —

Dates of Examination of principal parts—Cylinders *5-9-24* Slides *12-9-24* Covers *5-9-24* Pistons *12-9-24* Rods *12-9-24*  
Connecting rods *12-9-24* Crank shaft *1-9-24* Thrust shaft *20-8-24* Tunnel shafts *5-9-24* Screw shaft *7-10-24* Propeller *7-10-24*  
Stern tube *19-9-24* Steam pipes tested *-5-11-24* Engine and boiler seatings *-19-9-24* Engines holding down bolts *-24-10-24*  
Completion of pumping arrangements *-4-12-24* Boilers fixed *-24-10-24* Engines tried under steam *-6-12-24*  
Completion of fitting sea connections *-13-10-24* Stern tube *-25-9-24* Screw shaft and propeller *-8-10-24*  
Main boiler safety valves adjusted *-6-12-24* Thickness of adjusting washers — *R {  $\frac{P}{S} \frac{3}{32}$  } S. {  $\frac{P}{S} \frac{3}{32}$  }*  
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD'S No 798 H.C.F. 1-9-24* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYD'S No 796 J.A.N. 20-8-24*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYD'S No 798 H.C.F. 5-9-24* Material of Screw shafts *Steel* Identification Marks on Do. *LLOYD'S No 7079 H.C.F. 7-10-24*  
Material of Steam Pipes — *W. Iron* Test pressure — *540 L.B.S.*

Is an installation fitted for burning oil fuel *no*

Is the flash point of the oil to be used over 150°F. —

Have the requirements of Section 49 of the Rules been complied with —

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *s.s. "HALBEATH" - Glasgow Regt. No 43626*

General Remarks (State quality of workmanship, opinions as to class, &c. *This machinery has been constructed under Special Survey in accordance with the Rules and approved plans; the materials and workmanship are good.*

*The machinery has been forwarded to Leith to be fitted on board the vessel.*

*This machinery is eligible, in my opinion, for classification, and to have the record*

*✠ L.M.C. (with date) in the Register Book, when it has been satisfactorily fitted on board the vessel and examined under full working conditions.*

*The machinery of this vessel has been securely fitted on board. Safety valves of main boilers adjusted under steam (see above for thicknesses of adjusting washers). Spare gear checked & found in order. The machinery tried under steam & found satisfactory.*

*The machinery of this vessel is in good order & eligible in my opinion to have record of ✠ L.M.C. 12.24 in the Register Book & also notation for B.C.L 12.24.*

*It is submitted that this vessel is eligible for THE RECORD. + LMC 12.24. CL.*

The amount of Entry Fee ... £ *4 : 0 : 0* When applied for,  
Special *1/6 LEITH 11 : 0 : 0 28/10/24*  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : : *31-10-24*

*A.B. Forster & R. Basthoke*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *Deferred*

DEC. 16 DEC 1924

TUES, 12 MAY 1925

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TUES, 8 JAN 1925

Lloyd's Register Foundation