

## REPORT ON MACHINERY.

No. 41735

Received at London Office

RECORDED 22 1922

Date of writing Report

16 2 22

When handed in at Local Office

Feb 16<sup>th</sup>

19 22 Port of

GLASGOW.

No. in Survey held at

Ayr and Troon

Date, First Survey

11 3 1919

Last Survey

1 2 1922

Reg. Book.

on the Machinery of S.S. DRAKE

(Number of Visits

76)

Tons

Gross

1597

Net

794

When built

1922

Master

Built at

Ayr.

By whom built

Ailsa S.B. Co Ltd N° 343.

When made

1922

Engines made at

Troon

By whom made

Ailsa S.B. Coy Ltd N° 108

when made

1922

Boilers made at

Glasgow

By whom made

Dunsmuir &amp; Jackson Ltd B.126

when made

1922

Registered Horse Power

Owners

General Steam Nav Co Ltd.

Port belonging to

London.

Nom. Horse Power as per Section 28

259

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

22"

35"

54"

Length of Stroke

39"

Revs. per minute

90

Dia. of Screw shaft

as per rule

11.5

Material of

Iron

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

Is 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

Solid

If two

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

—

Length of stern bush

65"

Dia. of Tunnel shaft

as per rule

10.48

Dia. of Crank shaft journals

as per rule

11.32

Dia. of Crank pin

11 3/8

Size of Crank webs

21 1/2 x 4 1/2

Dia. of thrust shaft under

collars

11 3/8

Dia. of screw

14'-0"

Pitch of Screw

16' 3"

No. of Blades

4

State whether moveable

No

Total surface

61.5 sq.

No. of Feed pumps

2

Diameter of ditto

3 1/2

Stroke

19 1/2"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2

Stroke

19 1/2"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

4

Sizes of Pumps

See back.

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

In Engine Room

4 @ 2 1/2

In Holds, &amp;c. N° 1 hold. 2 @ 2 1/2. No 2 Hold 2 @ 2 1/2

N° 3. Hold.

2 @ 2 1/2

Tunnel

1 @ 2 1/2

No. of Bilge Injections

1

sizes

4"

Connected to condenser, or to circulating pump

pump

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

Yes

1 @ 3"

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

None

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

Below

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

Bilge &amp; Ballast

How are they protected

Wood covering

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 Shelter Deck

BOILERS, &amp;c.—(Letter for record

S)

Manufacturers of Steel

Total Heating Surface of Boilers

4516 sq.

Is Forced Draft fitted

No

No. and Description of Boilers

Two S.E. Marine

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

5-5-21

No. of Certificate

15816

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63 1/4

No. and Description of Safety Valves to

each boiler

Two spring loaded

Area of each valve

9.6 sq.

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers

1' 8"

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip.

Working: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water space

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

005358 - 005366 - 0110

Lloyd's Register Foundation



IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two connecting rod top end bolts and nuts  
Two connecting rod bottom end bolts and nuts Two main bearing bolts  
One set of coupling bolts One set of feed and bilge pump valves.  
A quantity of assorted bolts and nuts Iron of various sizes.

The foregoing is a correct description,  
FOR AILSA SHIPBUILDING CO., LIMITED.

*McMaughtie*  
ENGINEER MANAGER

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1919 Mar 11 May 2 Jul 8 Aug 14 1925 Sep 4 8 24 Oct 13 16 21 23 28 31 Nov 4 13 27 Dec 1 17 23 26 1920 Jan 22 26 30  
During erection on board vessel -- Sep 8 14 21 22 27 Oct 5 19 25 28 Nov 29 Dec 7 12 19 23 26 (1922) 30 31  
Total No. of visits 96

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 24-5-21 Stiles 24-5-21 Covers 24-5-21 Pistons 25-1-21 Rods 4-6-21

Connecting rods 4-6-21 Crank shaft 24-5-21 Thrust shaft 10-6-21 Tunnel shafts 10-6-21 Screw shaft 28-6-21 Propeller 11-3-2

Stern tube 2-8-21 Steam pipes tested 25-10-21 Engine and boiler seatings 24-9-21 Engines holding down bolts 28-10-21

Completion of pumping arrangements 26-12-21 Boilers fixed 19-10-21 Engines tried under steam 1-2-22

Completion of fitting sea connections 21-9-21 Stern tube 2-8-21 Screw shaft and propeller 29-8-21

Main boiler safety valves adjusted 23-12-21 Thickness of adjusting washers PBSV 33" 31" 31" 15" 32"

Material of Crank shaft S Identification Mark on Do. DCB 24 11 10 108 10-6-21 Material of Thrust shaft S Identification Mark on Do. DCB 24 11 10 108 10-6-21

Material of Tunnel shafts S Identification Marks on Do. DCB 24 11 10 108 10-6-21 Material of Screw shafts Iron Identification Marks on Do. DCB 24 11 10 108 10-6-21

Material of Steam Pipes Lap-welded iron Test pressure 540 lbs.

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. "Petrel".

General Remarks (State quality of workmanship, opinions as to class, &c.)

Pumps. Ballast Pump. 6" x 8" x 8" Gen. Ser. Pump 8" x 6" x 8" Sanitary 4" x 4" x 5" Aux. Cond 6" x 6" x 6"

Harbour Feed. 4" x 6" x 8" & 2 Main Feed (Weirs) 6" x 8" x 21"

The engines have been constructed under Special Survey in accordance

with the Rules of the Society. The workmanship and materials are of

good quality. The engines and boilers have been securely fitted on board

the vessel and tried under steam with satisfactory results.

It is submitted that this vessel is eligible for a record of LMC. 2-22

in the Register Book.

Oil fuel heating coils in double bottom tanks and settling tanks have been

fitted and tested, but no more of the oil fuel plant has been fitted

It is submitted that this vessel is eligible for THE RECORD. L.M.C. - 2.22 C.L.

The amount of Entry Fee ... £ 4 : 0 : When applied for, 21/2/22.

Special ... £ 38 : 6 : When received, 23/2/22.

Donkey Boiler Fee ... £ : : David C Barr

Travelling Expenses (if any) £ 8 : 10 : Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 21 FEB 1922

Assigned + LMC 2.22

MACHINERY CERT. WRITTEN 22.2.22

4 issued 25/2/22



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