

REPORT ON MACHINERY.

No. 33325

MUN. APR. 3 1922

Date of writing Report 31-3-

1922

When handed in at Local Office

31-3-

1922 Port of

Received at London Office

Hull

No. in Survey held at
Reg. Book.

Goole

Date, First Survey

24.1-22

Last Survey

29.3-

1922

on the

Steam Drifter

"ARABIS"

(Number of Visits 12)

Master

Built at

Goole

By whom built

Webster & Bickerton Ltd.

Engines made at

Galt, Ontario, Canada

By whom made

The Goldie & McCulloch Co. Ltd.

when made

1917

Boilers made at

By whom made

when made

1917

Registered Horse Power

Owners

J. McCann

Port belonging to

Hull

Nom. Horse Power as per Section 28

33

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Compound

No. of Cylinders

2

No. of Cranks

2

Dia. of Cylinders

12 & 24

Length of Stroke

16

Revs. per minute

Dia. of Screw shaft

as per rule 5.4

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

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

yes

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

yes

If two

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

Dia. of Tunnel shaft

as per rule 5.4

as fitted 5.2

Dia. of Crank shaft journals

as per rule 5.4

as fitted 5.2

collars

5.2

Dia. of screw

6-3

Pitch of Screw

8-1 1/2

No. of Blades

4

State whether moveable

no

Total surface

18 sq.

No. of Feed pumps

one

Diameter of ditto

2 1/4

Stroke

8

Can one be overhauled while the other is at work

No. of Bilge pumps

one

Diameter of ditto

2 1/4

Stroke

8

Can one be overhauled while the other is at work

No. of Donkey Engines

1 & 2

Suction of Pumps

6x4x6 duplex

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

In Engine Room

Two 2"

In Holds, &c.

One to fish room & one to

No. of Bilge Injections

1

sizes

3"

Connected to condenser, or to circulating pump

pump

Is a separate Donkey Suction fitted in Engine room & size 2" ejector

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

yes

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

yes

Are they Valves or Cocks

Lock

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

forward suction

How are they protected

wood casings

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

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

Total Heating Surface of Boilers

680 sq.

Is Forced Draft fitted

no

No. and Description of Boilers

one single ended

Working Pressure

140 lbs.

Tested by hydraulic pressure to

210 lbs.

Date of test

10-2-22

No. of Certificate

Can each boiler be worked separately

yes

Area of fire grate in each boiler

24 sq.

No. and Description of Safety Valves to

each boiler

two spring loaded

Area of each valve

3-140

Pressure to which they are adjusted

140 lbs.

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

abt. 8"

Mean dia. of boilers

9-6"

Length

9-0"

Material of shell plates

S

Thickness

1/16"

Range of tensile strength

28/32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D.R.

long. seams

D.R.D.B.S.

Diameter of rivet holes in long. seams

29/32

Pitch of rivets

5 1/8"

Lap of plates or width of butt straps

9 3/4"

Per centages of strength of longitudinal joint

rivets 84.6

plate 82.4

Working pressure of shell by rules

146.5

Size of manhole in shell

16 x 12

Size of compensating ring

4 3/4 dia x 1 1/2

No. and Description of Furnaces in each boiler

2 plain

Material

S

Outside diameter

37 1/4"

Length of plain part

top 69

Thickness of plates

crown 7/8

bottom 7/8

Description of longitudinal joint

S.R.D.B.S.

No. of strengthening rings

yes

Working pressure of furnace by the rules

128

Combustion chamber plates: Material

S

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

13/16"

Pitch of stays to ditto: Sides

7 x 9

Back

8 x 8 1/2

Top

7 x 9

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

159

Material of stays

S

Area at smallest part

1 3/8"

Area supported by each stay

680"

Working pressure by rules

148

End plates in steam space:

S

Material

S

Thickness

1 3/16"

Pitch of stays

15 x 13

How are stays secured

D.N.

Working pressure by rules

152

Material of stays

S

Area at smallest part

2"

Area supported by each stay

1950"

Working pressure by rules

127

Material of Front plates at bottom

S

Thickness

13/16"

Material of Lower back plate

S

Thickness

13/16"

Greatest pitch of stays

18" dia

Working pressure of plate by rules

166

Diameter of tubes

3"

Pitch of tubes

4 1/4 x 4 1/4

Material of tube plates

S

Thickness: Front

13/16"

Back

5/8"

Mean pitch of stays

8 1/2"

Pitch across wide water spaces

13

Working pressures by rules

136 lbs

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

6 x 3 1/4 double

Length as per rule

23 13/16"

Distance apart

9"

Number and pitch of stays in each

two 7"

Working pressure by rules

178

Steam dome: description of joint to shell

D.R.

% of strength of joint

67

Diameter

30"

Thickness of shell plates

5/8"

Material

S

Description of longitudinal joint

D.R. lap

Diam. of rivet holes

29/32

Pitch of rivets

3"

Working pressure of shell by rules

327.5

Crown plates

S

Thickness

5/8"

How stayed

domed

UPERHEATER. 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

W1307-0174

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 & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts, one set each of feed, bilge, air & circulating pump valves, one set of HP & LP piston rings, one safety valve spring, & a quantity of bolts & nuts & iron of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1922: Jan 24, 30, 31, Feb. 10, 21, 28, Mar 6, 9, 13, 16, 22, 29
{ During erection on board vessel -- }
Total No. of visits 12

Is the approved plan of main boiler forwarded herewith *no*

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders 31-1-22 Slides 31-1-22 Covers 31-1-22 Pistons 31-1-22 Rods 31-1-22
Connecting rods 31-1-22 Crank shaft 31-1-22 Thrust shaft 31-1-22 Tunnel shafts 30-1-22 Screw shaft 28-1-22 Propeller 30-1-22
Stern tube 24-1-22 Steam pipes tested 6-3-22 Engine and boiler seatings 30-1-22 Engines holding down bolts 21-2-22
Completion of pumping arrangements 16-3-22 Boilers fixed 28-2-22 Engines tried under steam 16-3-22
Completion of fitting sea connections 31-1-22 Stern tube 31-1-22 Screw shaft and propeller 31-1-22
Main boiler safety valves adjusted 16-3-22 Thickness of adjusting washers F. $\frac{9}{16}$ A. $\frac{15}{32}$
Material of Crank shaft ☒ Identification Mark on Do. ☒ Material of Thrust shaft ☒ Identification Mark on Do. ☒
Material of Tunnel shafts ☒ Identification Marks on Do. ☒ Material of Screw shafts *Iron* Identification Marks on Do. *2717 28-1-22 W.C.*
Material of Steam Pipes *S.D. Copper* Test pressure *280 lbs per sq. in.* ☒

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 *"Abelia" Hull Rept No. 33288.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel was built at Galt, Ontario, Canada, by the Goldie & McCulloch Co. Ltd, for a Canadian built drifter, from which it has been taken & installed in the drifter "Arabis, built by Messrs Webster & Bickerton, Ltd, of Goole.*

As far as could be ascertained the materials & workmanship are good.

The boiler & machinery have been properly fitted & secured on board, the steam & feed pipes tested by hydraulic pressure, & the safety valves adjusted under steam to 140 lbs pressure, & tested for accumulation. On completion the machinery was tried under steam & found satisfactory.

In my opinion the machinery is eligible for the record LMC 3.22.

The amount of Entry Fee ... £ : :
Special ... £ 11 : 11 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : 16/4

When applied for,

When received,

P. Fitzgerald.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 7 APR. 1922

Assigned



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Lloyd's Register
Foundation