

REPORT ON MACHINERY.

No. 67179

Received at London Office MON. FEB. 22. 1915

FEB 19 1915

Port of

NEWCASTLE-ON-TYNE

Date of writing Report

When taken at Dock Office

Date, First Survey

Feb. 17, 1915

Last Survey

Feb. 11, 1915

No. in Survey held at

Newcastle on Tyne

Reg. Book.

on the

Twin Screw Motor vessel "Arabis"

(Number of Vessels)

Gross

3647

Net

2364

Master

Built at

By whom built

Mest. Smiths Dock Co

When built

1915

Engines made at

Newcastle

By whom made

Swan Hunter & Wigham Richardson

When made

1915

Boilers made at

By whom made

when made

Registered Horse Power

Owners

Flower Motin Co

Port belonging to

London

Nom. Horse Power as per Section 28

302 1/2

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Two cycle single acting Diesel

No. of Cylinders

8

No. of Cranks

8

Dia. of Cylinders

16 1/8"

Length of Stroke

8 1/2"

Revs. per minute

125

Dia. of Screw shaft

as fitted 9 1/2"

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 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

If two

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

Yes

Length of stern bush

1.2 1/2"

Dia. of Tunnel shaft

as per rule 9 1/8"

Dia. of Crank shaft journals

as fitted 11"

Dia. of Crank pin

11"

Size of Crank webs

6.8 x 16 1/2"

Dia. of thrust shaft under

collars

9 3/8"

Dia. of screw

10.3"

Pitch of Screw

9.6"

No. of Blades

4

State whether moveable

No

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

5 & 1

SIZES OF PUMPS

(6x6x6) (6x6x6) (8x8x8) (4x2x4.5)

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

In Engine Room

2 - 3 1/2" & 1 - 2"

Connected to oil pump

In Holds, &c.

8.3 1/2"

No. of Bilge Injections

1

SIZES

5"

Connected to condenser, or to circulating pump

Ballast

Is a separate Donkey Suction fitted in Engine room & size

Yes

3 1/2"

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

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

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

Dates of examination of completion of fitting of Sea Connections

Middlesbrough

of Stern Tube

14.12.14

Screw shaft and Propeller

14.12.14

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Yes

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Per centages of strength of longitudinal joint

rivets

Working pressure of shell by rules

Size of manhole in shell

Material

Outside diameter

No. and Description of Furnaces in each boiler

No. of strengthening rings

Length of plain part

top

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Working pressure by rules

End plates in steam space

Pitch of stays to ditto: Sides

Back

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of stays

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Diameter 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 spaces

Working pressure by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Working pressure by rules

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

How stayed

Working pressure of end plates

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How stayed

Working pressure of end plates

Area of safety valves to superheater

IS A DONKEY BOILER FITTED? *Yes* *Two Cochran* If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:— 1 Working cylinder; 1 guide shoe; 1 working piston complete
10 bottom cyl studs and nuts. 1 working cylinder cover; fuel valve complete, 3 fuel valve
spindles and 6 springs. 1 scavenge piston valve. 1 scav. ecc strap. 1 scav. ecc sheave
8 scav. piston rings. 1 connecting rod; 1 pair of top end brasses & bolts; one pair of bottom end
brasses & bolts. 4 main bearing bolts and set of large & small main bearings 1 cam shaft
complete. 1 suction & 1 discharge valves for water pumps. 1 tail end shaft, 2 Iron propellers
1 set of coupling bolts & nuts, lengths of pipe suitable for fuel & blast etc.

The foregoing is a correct description,

SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

DIRECTOR

Manufacturer.

Dates of Survey while building
During progress of work in shops - - Feb. 17. Mar. 11. 20. Apr. 3. 7. 11. 17. 23. 29. May 2. 6. 9. 15. 20. 23. Jul. 16. 21. 24. Aug. 1. 6. 12. 14. 18. 25. 28. Sep. 2.
During erection on board vessel - - 10. 15. 26. Oct. 9. 28. Nov. 3. 25. Dec. 15. 23. 30. Jan. 12. 13. 14. 15. 19. 20. 23. 26. 30. Feb. 2. 5. 11. 12. 16. 19. 24. 29.
Total No. of visits 122

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 12.3.14 Slides 12.3.14 Covers 12.3.14 Pistons 27.2.14 Rods 30.3.14
Connecting rods 9.3.14 Crank shaft 3.7.14 Thrust shaft 19.2.14 Tunnel shafts 3.7.14 Screw shaft 3.7.14 Propeller 12.3.14

Stern tube 9.3.14 Steam pipes tested ✓ Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements 11.2.15 Boilers fixed ✓ Engines tried under steam 2.2.15

Main boiler safety valves adjusted ✓ Thickness of adjusting washers ✓

Material of Crank shaft Steel Identification Mark on Do. 4604 HK Material of Thrust shaft Steel Identification Mark on Do. R.W.C 3.7

Material of Tunnel shafts Steel Identification Marks on Do. R.W.C 3.7.14 Material of Screw shafts Steel Identification Marks on Do. R.W.C 3.7

Material of Steam Pipes ✓ Test pressure ✓

Is an installation fitted for burning oil fuel *Oil only* ✓ Is the flash point of the oil to be used over 150°F. *Yes* ✓

Have the requirements of Section 49 of the Rules been complied with *Yes* ✓

Is this machinery duplicate of a previous case *Yes* ✓ If so, state name of vessel *Screw motor vessel Arun*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been built under special survey the material and workmanship are good the machinery has been efficiently fitted on board, and the engines have been tried under full power both ahead & astern. In our opinion this vessel is eligible for the notation of LMC 2-15*

It is submitted that this vessel is eligible for

THE RECORD + LMC 2 15.

Oil engines 8 Cy. 16 1/8" - 33 7/8" 25C.S.A.

302 N.H.P.

2 DB 100 T.B.

The amount of Entry Fee ... £ 3 : 0

Special ... £ 35 : 2

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for.

FEB 19 1915

When received.

23 2/19 15

Committee's Minute

Assigned

+ L.M.C. 2-15

oil engines

MACHINERY CERTIFICATE



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