

REPORT ON MACHINERY.

No. 11600

SAT. 9 JUN. 1923

Received at London Office

Date of writing Report

19

When handed in at Local Office

29.5.23

Port of

Glasgow and Middlesbrough

No. in Survey held at
Reg. Book.

Glasgow and Middlesbrough

Date, First Survey 23rd April

Last Survey 28th May 1923

on the

Steel Screw Steamer ATHERTON

(S.S. No 41)

Tons

Gross

Net

When built

Master

Built at Hawthorn Hill

By whom built Furness S. B. & Co Ltd

Engines made at

Glasgow

By whom made

Messrs Ross & Duncan No. 1091

when made 1923

Boilers made at

do

By whom made

do

No. 1645-6

when made 1923

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

156

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines Triple Expansion (See Gls Rpt No 42693) No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 17"-27½"-45" Length of Stroke 33" Revs. per minute 9.84 as per rule 9.84 as fitted 10.74 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 yes If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 40½"

Dia. of Tunnel shaft as per rule 8.62 as fitted 8¾" Dia. of Crank shaft journals as per rule 9.05 as fitted 9½" Dia. of Crank pin 9½" Size of Crank webs 17½" x 6" Dia. of thrust shaft under

collars 9½" Dia. of screw 12'-3" Pitch of Screw 12'-6" No. of Blades 4 State whether moveable no Total surface 50 ft²

No. of Feed pumps 2 Diameter of ditto 2¾" Stroke 16½" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3" Stroke 16½" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 6x8x8 Ballast 7x4½x6½ No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 @ 2½" In Holds, &c. 2 @ 3" in fore hold, 3 @ 3" in aft hold

Tunnel will run @ 2½"

No. of Bilge Injections 1 sizes 4" Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3½"

Are all the bilge suction pipes fitted with roses yes Are the valves 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 Suctions to fore holds How are they protected Wood casing

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 see hull Rpt. Is it fitted with a watertight door yes worked from Top platform.

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs Colville & Sons Ltd

Total Heating Surface of Boilers 2806 ft² Is Forced Draft fitted no No. and Description of Boilers Two single ended

Working Pressure 180 Tested by hydraulic pressure to 320 lb Date of test 23-4-23 No. of Certificate 16237-9

Can each boiler be worked separately yes Area of fire grate in each boiler 39.5 ft² No. and Description of Safety Valves to

each boiler 2 Direct Spring Area of each valve 4.9 ft² Pressure to which they are adjusted 184 lb Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6" Mean dia. of boilers 12'-0" Length 10'-6" Material of shell plates Steel

Thickness 1" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams S.R.

long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1½" Pitch of rivets 7" Lap of plates or width of butt straps 1-5¼"

Per centages of strength of longitudinal joint rivets 84.5 plate 83.9 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"

Size of compensating ring 30½" x 26½" No. and Description of Furnaces in each boiler 2 Morrison Material steel Outside diameter 3'-7½"

Length of plain part top bottom Thickness of plates crown 9½ bottom 7½ Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 204 Combustion chamber plates: Material steel Thickness: Sides ½" Back ⅝" Top ½" Bottom ½"

Pitch of stays to ditto: Sides 9½ x 9 Back 8½ x 8½ Top 9½ x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 187

Material of stays Steel Area at smallest part 2.07 ft² Area supported by each stay 85.5 Working pressure by rules 195 End plates in steam space:

Material Steel Thickness 1½" Pitch of stays 17" x 16" How are stays secured S. nuts Working pressure by rules 185 Material of stays steel

Area at smallest part 5.18 ft² Area supported by each stay 272 Working pressure by rules 198 Material of Front plates at bottom steel

Thickness 27/32 Material of Lower back plate steel Thickness 27/32 Greatest pitch of stays 14" x 8½" Working pressure of plate by rules 183

Diameter of tubes 3½" Pitch of tubes 4½" x 4½" Material of tube plates steel Thickness: Front 27/32 Back ¾" Mean pitch of stays 10"

Pitch across wide water spaces 14" Working pressures by rules 342 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 7¾" x 1¾" Length as per rule 30½" Distance apart 9" Number and pitch of stays in each 2 @ 9½"

Working pressure by rules 194 Steam dome: description of joint to shell none % 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

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— *Two each of con. rod top-end, bottom-end and main bearing bolts and nuts: One set of coupling bolts and nuts: One set of feed and bilge pump valves: Assorted bolts and nuts, iron of various sizes; one cast iron propeller and minor gear*

The foregoing is a correct description of



Manufacturer.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel ---
Total No. of visits

1923 Apr 23 May 2 4 10 15 17 19 23 25 28

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

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders *6.2.23* Slides *6.2.23* Covers *6.2.23* Pistons *8-11-20* Rods *6.2.23*
Connecting rods *6.2.23* Crank shaft *6.2.23* Thrust shaft *6.2.23* Tunnel shafts *6.2.23* Screw shaft *6.2.23* Propeller *6.2.23*
Stern tube *6.2.23* Steam pipes tested *17.5.23* Engine and boiler seatings *3.5.23* Engines holding down bolts *28-5-23*
Completion of pumping arrangements *25.5.23* Boilers fixed *25.5.23* Engines tried under steam *25.5.23*
Completion of fitting sea connections *23.4.23* Stern tube *3.5.23* Screw shaft and propeller *10-5-23*
Main boiler safety valves adjusted *25.5.23* Thickness of adjusting washers *Port 13/16 P-1/4 Star Boiler 5-2/16*
Material of Crank shaft *Steel* Identification Mark on Do. *1091 JES* Material of Thrust shaft *steel* Identification Mark on Do. *1091 JSC*
Material of Tunnel shafts *Steel* Identification Marks on Do. *1091 JSC* Material of Screw shafts *steel* Identification Marks on Do. *1091 JSC*
Material of Steam Pipes *Solid drawn copper (4" x 4.7)* Test pressure *360 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. Rawlinson* *Indb Rpt N° 11569*

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

The machinery of this vessel has been built under special survey—see Glasgow Report No. 42693, and has now been satisfactorily fitted on board in accordance with the Rules, examined under steam and all found in good condition

*The machinery is now in a good and safe working condition and renders the vessel eligible in our opinion to have the notation of *LMC-5.23* in the Register Book*

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 5.23. CL.

11/6/23

The amount of Entry Fee ... £ *✓* :
Special ... *1/5* ... £ *7-16-0* :
Donkey Boiler Fee ... £ *✓* :
Travelling Expenses (if any) £ *✓* :
When applied for, *8.6.1923*
When received, *7.10.23*

W. Morrison & C. E. Wilks
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute *FRI. 15 JUN. 1923*

Assigned *+ LMC 5.23*
C.L.



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Foundation