

# REPORT ON MACHINERY.

No. 28874

Received at London Office

MON JUL 28 1924

to of writing Report

When handed in at Local Office

26 JUL 1924

Port of

SUNDERLAND

o. in Survey held at

SUNDERLAND

Date, First Survey

Apr 3

Last Survey

July 22 1924

ag. Book.

on the SS "INDIUM"

(Number of Visits)

Gross

Tons

Net

Master

Built at S. Shields

By whom built Chas. Renoldson & Co (2/2)

When built 1924

Engines made at Sunderland

By whom made Maccoth & Pollack (341)

when made 1924

Boilers made at Sunderland

By whom made Maccoth & Pollack (341)

when made 1924

Registered Horse Power

Owners United Alkali Co

Port belonging to Liverpool

om. Horse Power as per Section 28

56

Is Refrigerating Machinery fitted for cargo purposes

NO

Is Electric Light fitted

NO

GINES, &c.—Description of Engines Compound

No. of Cylinders 2

No. of Cranks 2

dia. of Cylinders 15" 32"

Length of Stroke 24

Revs. per minute 120

Dia. of Screw shaft

as per rule 7.04

Material of screw shaft

the screw shaft fitted with a continuous liner the whole length of the stern tube NO. VICKERS GLANDS the after end of the liner made water tight

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

If two

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

Length of stern bush 2-4 1/2"

dia. of Tunnel shaft

as per rule NONE

Dia. of Crank shaft journals

as per rule 6.38

Dia. of Crank pin 6 1/2"

Size of Crank webs 9 1/2 x 4 1/2"

Dia. of thrust shaft under

ollars 6 1/2"

Dia. of screw 8-0"

Pitch of Screw 8-6"

No. of Blades 4

State whether moveable NO

Total surface 27.6 sq ft

To. of Feed pumps 1

Diameter of ditto 2 1/4"

Stroke 12"

Can one be overhauled while the other is at work

To. of Bilge pumps 1

Diameter of ditto 2 1/4"

Stroke 12"

Can one be overhauled while the other is at work

To. of Donkey Engines 1

Sizes of Pumps 6 x 4 x 6

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

In Engine Room 2 @ 2"

In Holds, &c. 2 @ 2" 1 for peak, 1 after peak @ 2"

No. of Bilge Injections 1

sizes 3"

Connected to condenser or to circulating pump YES

YES

Is a separate Donkey Suction fitted in Engine room & size YES 2 1/4"

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

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 stowhold 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

Dates of examination of completion of fitting of Sea Connections 9.7.24

ENG. AFT

of Stern Tube 4.7.24

NGLE

Screw shaft and Propeller 16.7.24

Is the Screw Shaft Tunnel watertight NONE

Is it fitted with a watertight door

worked from

OILERS, &c.—(Letter for record S)

Manufacturers of Steel S. Colvill & Co

Total Heating Surface of Boilers 1086 sq ft

Is Forced Draft fitted NO

No. and Description of Boilers One single ended

Working Pressure 130 lbs

Tested by hydraulic pressure to 245 lbs

Date of test 24.6.24

No. of Certificate 3887

Can each boiler be worked separately

Area of fire grate in each boiler 37 sq ft

No. and Description of Safety Valves to

each boiler 2 Spring Valves

Area of each valve 4.9 sq ft

Pressure to which they are adjusted 135 lbs

Are they fitted with easing gear YES

Smallest distance between boilers or uptakes and bunkers or woodwork 16"

Mean dia. of boilers 11-6"

Length 10-0" Material of shell plates S

Thickness 3/4"

Range of tensile strength 28-32

Are the shell plates welded or flanged NO

Descrip. of riveting: cir. seams laps etc

long. seams 1 1/2" x 1/2"

Diameter of rivet holes in long. seams 15/16"

Pitch of rivets 5 1/2"

Lap of plates or width of butt straps 10"

Per centages of strength of longitudinal joint

81.4

Working pressure of shell by rules 133

Size of manhole in shell 12 x 16

Size of compensating ring 26 x 28 x 3/4"

No. and Description of Furnaces in each boiler 2 Brighton

Material S

Outside diameter 3-8 1/2"

Length of plain part

Thickness of plates

3 1/2"

Description of longitudinal joint welded

No. of strengthening rings

Working pressure of furnace by the rules 140

Combustion chamber plates: Material S

Thickness: Sides 19/32"

Back 19/32"

Top 19/32"

Bottom 19/32"

Pitch of stays to ditto: Sides 9 1/8 x 8 3/8"

Back 9 1/4 x 10"

Top 8 3/8 x 10"

If stays are fitted with nuts or riveted heads nuts in

Working pressure by rules 131

Material of stays S

Diameter at smallest part 1 1/2"

Area supported by each stay 92 sq in

Working pressure by rules 135

End plates in steam space

Material S

Thickness 27/32"

Pitch of stays 14 x 16 1/2"

How are stays secured 2 M. & W.

Working pressure by rules 138

Material of stays S

Diameter at smallest part 2 1/2 x 2 1/2"

Area supported by each stay 224 sq in

Working pressure by rules 131

Material of Front plates at bottom S

Thickness 23/32"

Material of Lower back plate S

Thickness 3/4"

Greatest pitch of stays 12 1/4"

Working pressure of plate by rules 162

Diameter of tubes 3 1/4"

Pitch of tubes 4 3/8 x 4 7/8"

Material of tube plates S

Thickness: Front 23/32"

Back 11/16"

Mean pitch of stays 13 5/8 x 8 3/8"

Pitch across wide water spaces 13 1/2"

Working pressure by rules 134

Girders to Chamber tops: Material S

Depth and

thickness of girder at centre 6 3/4 x 1 5/8"

Length as per rule 28"

Distance apart 10"

Number and pitch of stays in each 2-8 3/8"

Working pressure by rules 163

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

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:—

Two top and two bottom end connecting rod bolts and nuts, two main bearing bolts, one set connecting bolts, one set fuel and bilge pump valves, assorted bolts & nuts, 2000 various sizes

The foregoing is a correct description,

MAGCOLL & POLLOCK LTD

J.H. Pilling.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1924. Apr. 29. 24. May 6. 24. June 12. 24. July 2. 11. 16. 18. 22.  
During erection on board vessel - - -  
Total No. of visits 12

Is the approved plan of main boiler forwarded herewith YES

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 12. 6. 24 Slides 10. 5. 24 Covers 2. 7. 24 Pistons 12. 6. 24 Rods 12. 6. 24

Connecting rods 12. 6. 24 Crank shaft 4. 4. 24 Thrust shaft 20. 5. 24 Tunnel shafts NONE Screw shaft 20. 5. 24 Propeller 12. 6. 24

Stern tube 2. 7. 24 Steam pipes tested 18. 7. 24 Engine and boiler seatings 16. 7. 24 Engines holding down bolts 22. 7. 24

Completion of pumping arrangements 16. 7. 24 Boilers fixed 22. 7. 24 Engines tried under steam 22. 7. 24

Main boiler safety valves adjusted 22. 7. 24 Thickness of adjusting washers  $P \frac{7}{32}$   $S \frac{7}{32}$

Material of Crank shaft Steel Identification Mark on Do. 84 MR Material of Thrust shaft Steel Identification Mark on Do. 341 GAH

Material of Tunnel shafts NONE Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 341 GAH

Material of Steam Pipes Copper Test pressure 260 lbs  $\frac{1}{2}$ "

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 No If so, state name of vessel ✓

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

The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good and under the vessel eligible in my opinion to have word of - L.M.C. 7. 24

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 7. 24. O.G.

The amount of Entry Fee ... £ 2

Special ... £ 15

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for,

26 JUL 1924

When received,

26 JUL 1924

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI 22 AUG 1924

Assigned

+ L.M.C. 7. 24

CERTIFICATE WRITTEN



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Foundation