

REPORT ON MACHINERY

No. 8405

Date of writing Report 22nd Dec 1922 When handed in at Local Office

Received at London Office

TUE 9 JAN. 1923

No. in Survey held at Dundee
Reg. Book.Date, First Survey 18th Oct. 1920 Last Survey 2nd Jan 1923

on the S.S. Asiatic to Arthurian

(Number of Visits 44)

Master Built at Burntisland By whom built Burntisland S.B.C. No 112 Tons Gross Net 1923

Engines made at Dundee By whom made Cooper & Greig. Ltd. No 234 when made 1923

Boilers made at Sunderland By whom made N.E. Marine Eng. Co. Ltd. No 2506 when made 1921

Registered Horse Power Owners to H. Cockerline & Co. Port belonging to Hull

Nom. Horse Power as per Section 28 342 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion

No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25" x 41" x 68" Length of Stroke 45 Revs. per minute 70 Dia. of Screw shaft as per rule 13.6 Material of screw shaft as fitted 13 3/4 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 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

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 55"

Dia. of Tunnel shaft as per rule 13.4 Dia. of Crank shaft journals as per rule 13.02 Dia. of Crank pin 13 1/4 Size of Crank webs 25 1/2 x 8 1/4 Dia. of thrust shaft under

collars 13 1/4 Dia. of screw 16.6 Pitch of Screw 16.6 No. of Blades 4 State whether moveable No Total surface 90 sq

No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps BALLAST 10 1/2 x 12 1/2 x 21" GENERAL 8 x 5 x 8" DONKEY Bx 5 1/2 x 3 1/2 x 10"

In Engine Room 3 @ 3 1/2 In Holds, &c. No 1 Hold 2 @ 3 1/2: No 2 Hold 2 @ 3 1/2: No 3 Hold

2 @ 3 1/2: No 4 hold 2 @ 3 1/2: Tunnel well 1 @ 2 1/2. Fore Peak 1 @ 2 1/2

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C.P. 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 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 Forward bilge suction How are they protected Strong 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 Upper deck level.

OILERS, &c.—(Letter for record R.) Manufacturers of Steel

Total Heating Surface of Boilers 5336 sq Is Forced Draft fitted No No. and Description of Boilers Two single ended multitubular

Working Pressure 180 lbs Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Yes Area of fire grate in each boiler 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 or woodwork 18" 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

ong. 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 rule 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 Thickness of plates crown 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 280 lbs 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 spaces 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

005429-005435-0065

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes (Middlesbrough Rpt No 1119)*

SPARE GEAR. State the articles supplied:— *1 set each of top & bottom end, main bearing & coupling bolts & nuts. 1 set each of feed & bilge pump suction & delivery valves, 1 set each of air & circulating pump valves, 2 main & 2 donkey check valves, 12 Condenser tubes & 120 ferrules, 1 c.s. propeller, 1 screw shaft, 1 safety valve spring, 6 plain boiler tubes, 1 set of springs for cylinder escape valves, feed & bilge pumps. assorted cast iron bolts & nuts.*

The foregoing is a correct description,

For COOPER & GREIG LIMITED

Thos Cooper
DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops - - *1920* OCT. 18. 19. NOV. 11. 15. DEC. 30. *1921* FEB. 2. 16. 21. MAR. 9. 14. 23. APR. 5. 8. 21. MAY 6. 12. 19. JUN. 3. 14.
During erection on board vessel - - *1922* JULY 4. 19. AUG. 2. 9. 19. 22. SEP. 6. 13. 20. OCT. 4. 17. *1923* OCT. 23. 30.
Total No. of visits *44* Is the approved plan of main boiler forwarded herewith ☒

Dates of Examination of principal parts—Cylinders *6-5-21* Slides *9-8-21* Covers *6-5-21* Pistons *9-8-21* Rods *19-5-21*
Connecting rods *19-5-21* Crank shaft *3-6-21* Thrust shaft *6-5-21* Tunnel shafts *22-8-21* Screw shaft *22-8-21* Propeller *2-8-21*
Stern tube *19-8-21* Steam pipes tested *15-12-22* *4-7-21* *J.S. Glasgow* Engine and boiler seatings *Liith Rpt* Engines holding down bolts *12-12-22*
Completion of pumping arrangements *28-12-22* Boilers fixed *12-12-22* Engines tried under steam *27-12-22* ✓
Completion of fitting sea connections *Liith Report* Stern tube *Liith Report* Screw shaft and propeller *27-11-22*
Main boiler safety valves adjusted *27-12-22* ✓ Thickness of adjusting washers *P.P. 13/32: S 11/32. S.P. 7/16: S. 13/32.*
Material of Crank shaft *S* Identification Mark on Do. *J.H.M. 22-8-21* Material of Thrust shaft *S* Identification Mark on Do. *J.H.M. 22-8-21*
Material of Tunnel shafts *S* Identification Marks on Do. *J.H.M. 22-8-21* Material of Screw shafts *S* Identification Marks on Do. *J.H.M. 22-8-21*
Material of Steam Pipes *Seamless steel* 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. ✓ If so, state name of vessel. ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
These Engines have been built under Special Survey and in accordance with the Rules. The materials and workmanship are sound & good.
The Engines and Boilers have been fitted on board in an efficient manner tried under steam and found satisfactory and are eligible in our opinion to be classed with record of L.M.C 1-23.

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 1.23. C.L.

A.H.D.
15/1/23.

The amount of Entry Fee ... £ 5 : 0 :
Special ... £ 46 : 0 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 8. 1. 19. 23
When received, 11. 1. 19. 23

J. S. Sillars for self and *J. H. Mackintosh*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 30 JAN. 1923*
Assigned *+ L.M.C. 1.23*
C.L.