

REPORT ON MACHINERY.

Sld Rpt No 25997

No 8267

SAT. JAN. 17. 1914

Received at London Office

MIDDLESBRO

Date of writing Report 15.1.14 19 When handed in at Local Office 16.1.1914 Port of

No. in Survey held at Stockton-on-Tees Date, First Survey 14 July 1913 Last Survey 12 July 1914

78 huff on the Stead screw steamer Constantinos XII (S.S.N. 246) Tons Gross 3892 Net 2351

Master E. Stavroudis Built at Sunderland By whom built J. Priestman & Co When built 1914

Engines made at Stockton By whom made Messrs Blair & Co (N. 1778) when made 1914

Boilers made at Stockton By whom made Messrs Blair & Co when made 1914

Registered Horse Power Owners Hellenic Transport S.S. Co Port belonging to Piraeus

Nom. Horse Power as per Section 28 380 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 26-42-70 Length of Stroke 48 Revs. per minute 62 Dia. of Screw shaft as per rule 14.48 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

in the propeller boss yes If the liner is in more than one length are the joints burned in one 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 tight fit

If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'-4"

Dia. of Tunnel shaft as per rule 12.98 Dia. of Crank shaft journals as per rule 13.68 Dia. of Crank pin 14 3/4 Size of Crank web 28 1/2 x 9 1/2

collars 14 3/4 Dia. of screw 17'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable no Total surface 92 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 34 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 5 Stroke 34 Can one be overhauled while the other is at work yes

No. of Donkey Engines 3 Sizes of Pumps Ballant 11x10, Fred 8x18, No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 @ 3 1/2 In Holds, &c. 2 @ 3 1/2 in each hold

Jurnal well on @ 2 1/2

No. of Bilge Injections 1 sizes 7 Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 4"

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 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 forward holds How are they protected wood ceiling

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 15-12-13 of Stern Tube 11-12-13 Screw shaft and Propeller 30-12-13

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record (5)) Manufacturers of Steel Messrs John Spence & Son

Total Heating Surface of Boilers 6024 Is Forced Draft fitted no No. and Description of Boilers 3 single ended

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 19-12-13 No. of Certificate 5212

Can each boiler be worked separately yes Area of fire grate in each boiler 61.5 No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 7.07 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 5'-0" at product dia. of boilers 14'-6" Length 11'-0" Material of shell plates steel

Thickness 1 3/16 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 R. Lap

long. seams 2 B-3 Riv Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 3/4 Lap of plates or width of butt straps 18 3/4 x 1 1/2

Per centages of strength of longitudinal joint rivets 88.0 Working pressure of shell by rules 184 Size of manhole in shell 16" x 12"

Size of compensating ring 7 1/2 x 1 1/2 No. and Description of Furnaces in each boiler 3 Dighton Material steel Outside diameter 44 7/8

Length of plain part top Thickness of plates crown 9/16 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 196 Combustion chamber plates: Material steel Thickness: Sides 1/2 Back 1/2 Top 1/2 Bottom 13/16

Pitch of stays to ditto: Sides 8 3/4 x 10 Back 9 3/4 x 8 3/4 Top 9 3/4 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186

Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 85.5 Working pressure by rules 210 End plates in steam space:

Material steel Thickness 1 1/2 Pitch of stays 20 1/2 x 1 1/2 How are stays secured nuts + 9 x 1 washers Working pressure by rules 195 Material of stays steel

Diameter at smallest part 6.67 Area supported by each stay 323 Working pressure by rules 215 Material of Front plates at bottom steel

Thickness 1 1/2 Material of Lower back plate steel Thickness 1 1/2 Greatest pitch of stays 15 1/2 x 8 3/4 Working pressure of plate by rules 252

Diameter of tubes 3 1/2 Pitch of tubes 4 7/8 x 4 3/4 Material of tube plates steel Thickness: Front 1 1/2 Back 1 1/2 Mean pitch of stays 11 1/2

Pitch across wide water spaces 14 1/2 Working pressures by rules 188 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 7 1/2 x 1 3/4 Length as per rule 29 Distance apart 9 3/4 Number and pitch of stays in each 2 @ 9"

Working pressure by rules 186 Superheater or Steam chest; how connected to boiler none 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

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

see Sld Rpt 7/2/14

2020-1103000-380300



VERTICAL DONKEY BOILER— Manufacturers of Steel **NONE**

No. _____ Description _____
 Made at _____ By whom made _____ When made _____ Where fired _____
 Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____
 Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____
 If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____
 Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____
 Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____
 Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____
 Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *One cast iron propeller; Two connecting rod top & bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, two main and donkey check valves, iron and bolts of various sizes.*

The foregoing is a correct description,
FOR BLAIR & CO., LIMITED.
G. W. Nettleship Manufacturer.

Dates of Survey while building { During progress of work in shops -- } SECRETARY. July. 1. 17. 22. 24. 30. Aug. 1. 5. 8. 12. 14. Sept. 15. 18. 22. 26. 29. 30. Oct. 3. 7. 10. 13. 16. 17. 20. 22. 24. 27. 28. { During erection on board vessel -- } 31. 1. 3. 5. 7. 10. 12. 14. 17. 19. 21. Dec. 1. 3. 5. 10. 12. 15. 17. 19. 30. Jan. 6. 7. 9. 12. (40) Dec. 11. 15 Jan. 27 Feb. 2 { Total No. of visits } 50 9 4

Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " *none*

Dates of Examination of principal parts—Cylinders 16.10.13 Slides 13.10.13 Covers 13.10.13 Pistons 17.10.13 Rods 17.10.13
 Connecting rods 17.10.13 Crank shaft 20.10.13 Thrust shaft 24.9.13 Tunnel shafts 13.10.13 Screw shaft 15.12.13 Propeller 15.12.13
 Stern tube 5.12.13 Steam pipes tested 7.1.14 Engine and boiler seatings 11.12.13 Engines holding down bolts 6.1.14
 Completion of pumping arrangements 12.1.14 Boilers fixed 12.1.14 Engines tried under steam 12.1.14
 Main boiler safety valves adjusted 12.1.14 Thickness of adjusting washers P.Bh $\frac{1}{32}$ B P $\frac{3}{64}$ C.Bh $\frac{5}{16}$ S.12h $\frac{1}{32}$ S $\frac{3}{32}$
 Material of Crank shaft *Ing Steel* Identification Mark on Do. 6864 Material of Thrust shaft *Ing Steel* Identification Mark on Do. 9808-N
 Material of Tunnel shafts *Ing Steel* Identification Marks on Do. 9808-N Material of Screw shafts *iron* Identification Marks on Do. 6864
 Material of Steam Pipes *solid drawn copper* ($4\frac{1}{2}$ " x 2.5 w.g) Test pressure 400 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. *To complete the survey the spare gear requires to be examined. It is proposed to have this done at Sunderland. The surveyors have been advised.*)

The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good. The boilers and main steam pipes were tested by hydraulic pressure and the engines and boilers examined under steam and all found satisfactory. In my opinion this vessel will be eligible for the notation of $\frac{1}{2}$ LMC 2, 14 (with a date) when the survey has been completed.

Sunderland - Survey Complete. - *Now done, spare gear examined and found in order*

It is submitted that this vessel is eligible for THE RECORD. + LMC 2 14

JWR
 6/2/14

The amount of Entry Fee .. £ 3. 0. 0 When applied for.
 Special £ 39. 0. 0
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :

Wm Morrison Lewis Davis
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. FEB. 6 - 1914

Assigned

+ LMC 2 14



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Certificate (if registered) to be sent to the Registrar of Shipping or below the space for Committee's Minute. (The Registrar is requested not to write on or below the space for Committee's Minute.)