

REPORT ON MACHINERY.

No. 7361.

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Reg. Book. on the Steel screw steamer TROPEIRO (Number of Visits 15 at Sunderland Gross 1367.14 Tons Net 788.53)Master M. Nicolich Built at Dundee By whom built Dundee S.B. Co. Ltd When built 1908Engines made at Sunderland By whom made North Eastern Marine Eng Co when made 1908Boilers made at Sunderland By whom made North Eastern Marine Eng Co when made 1908Registered Horse Power ✓ Owners Empresa de Nav Sul-Rio-Grandense Port belonging to Rio-GrandeNom. Horse Power as per Section 28 141 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yesENGINES, &c.—Description of Engines Triple Exp. See Sld Rpt No 23674 No. of Cylinders 3 No. of Cranks 3Dia. of Cylinders 17-28-46 Length of Stroke 30 Revs. per minute 88 Dia. of Screw shaft 9.23 as per rule 9.23 Material of screw shaft Iron
as fitted 9.2Is 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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓ If twoliners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 3'-3"Dia. of Tunnel shaft 8.37 as per rule 8.37 Dia. of Crank shaft journals 8.79 as per rule 8.79 Dia. of Crank pin 8.7 Size of Crank webs 5.2 x 13.3 Dia. of thrust shaft undercollars 8.7 Dia. of screw 11'-0" Pitch of Screw 13'-6" No. of Blades 4 State whether moveable no Total surface 42 sqNo. of Feed pumps 2 Diameter of ditto 2 3/4 Stroke 15 Can one be overhauled while the other is at work yesNo. of Bilge pumps 2 Diameter of ditto 3 Stroke 15 Can one be overhauled while the other is at work yesNo. of Donkey Engines two Sizes of Pumps Ballant = 6 x 7 x 9 No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room 2 @ 2" diam + one @ 2 1/2" In Holds, &c. No. 1 hold = 1 @ 2 1/2; 2 = 2 hold = 1 @ 2 1/2No. of Bilge Injections 1 sizes 3 1/2 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes - 2 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 noneAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks bothAre 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 aboveAre 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 yesWhat 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 yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesDates of examination of completion of fitting of Sea Connections 17.3.08 of Stern Tube 17.3.08 Screw shaft and Propeller 17.3.08Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platformBOILERS, &c.—(Letter for record (S)) Manufacture of Steel See Sunderland Rpt No 23674Total Heating Surface of Boilers 2373 sq Forced Draft fitted no No. and Description of Boilers One Single EndedWorking Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 9.12.07 No. of Certificate 2678Can each boiler be worked separately ✓ Area of fire grate in each boiler 63.8 sq No. and Description of Safety Valves toeach boiler 2 Spring Area of each valve 7.07 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15-3 1/2 Length 10-8 1/2 Material of shell plates steelThickness 1 3/16 Range of tensile strength 28 1/2 - 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.r. laplong. seams C.r.d. 2.5 Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 9 1/16 Lap of plates or width of butt straps 19 1/4"Per centages of strength of longitudinal joint rivets 86.7 Working pressure of shell by rules 180.1 lbs Size of manhole in end 16" x 12"Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Dighton Material Steel Outside diameter 47 1/2"Length of plain part top bottom ✓ Thickness of plates top bottom 9 1/16 Description of longitudinal joint weld No. of strengthening rings ✓Working pressure of furnace by the rules 185 Combustion chamber plates: Material Steel Thickness: Sides 3/4 Back 2 5/8 Top 3/4 Bottom 7/8"Pitch of stays to ditto: Sides 8 3/8 x 12 Back 10 3/8 x 11 1/4 Top 8 3/8 x 12 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.1Material of stays Steel Diameter at smallest part 2.43 Area supported by each stay 116.7 Working pressure by rules 187 End plates in steam space:Material Steel Thickness 1 3/8 Pitch of stays 22 3/4 x 21 1/2 How are stays secured 2.4 x W Working pressure by rules 182.7 Material of stays steelDiameter at smallest part 8.48 Area supported by each stay 490 sq Working pressure by rules 180.3 Material of Front plates at bottom steelThickness 1 3/16 Material of Lower back plate Steel Thickness 1 5/16 Greatest pitch of stays 14 1/2 x 11 1/4 Working pressure of plate by rules 180.5Diameter of tubes 3 1/4 Pitch of tubes 4 7/8 x 4 1/2 Material of tube plates Steel Thickness: Front 1 3/16 Back 1 3/8 Mean pitch of stays 10.28"Pitch across wide water spaces 14 1/2" Working pressures by rules 184.9 Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 8" x 2" Length as per rule 29.34 Distance apart 12" Number and pitch of stays in each 2 @ 8 3/8"Working pressure by rules 183 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler workedseparately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivetholes — 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 —

002956-002969-0196

VERTICAL DONKEY BOILER—

Manufacturers of Steel

See Leith Report No 12164

No. one Description Vertical

Made at Tweedmouth By whom made Jessie Black & Son When made 12.07 Where fixed Atkehold

Working pressure 100 tested by hydraulic pressure to 200 Date of test 9.12.07 No. of Certificate 636 Fire grate area 22 Description of Safety

Valves Direct Spring No. of Safety Valves one Area of each 110 Pressure to which they are adjusted 98 lbs Date of adjustment 8.5.08

If fitted with easing gear yes If steam from main boilers can enter the donkey boiler no Dia. of donkey boiler 6'-3" Length 10'-6"

Material of shell plates steel Thickness 15/32 Range of tensile strength 27-32 Descrip. of riveting long. seams Lap treble

Dia. of rivet holes 13/16 Whether punched or drilled drilled Pitch of rivets 3 1/8" Lap of plating 5" Per centage of strength of joint Rivets 82

Working pressure of shell by rules 105 Thickness of shell crown plates 5/8" Radius of do. 6'-6" No. of stays to do. 4 Dia. of stays 1 1/2" Plates 74

Diameter of furnace Top 4'-11" Bottom 5'-8" Length of furnace 5'-6" Thickness of furnace plates 19/32 Description of joint Lap Single

Working pressure of furnace by rules 100 lbs Thickness of furnace crown plates 3/4 Stayed by as shell crown & 6'-6" Rad

Diameter of uptake 15 3/4 Thickness of uptake plates 3/8" Thickness of water tubes 3/8 Dates of survey See Leith Report

SPARE GEAR. State the articles supplied:— 2 top end, 2 bottom end, 2 main bearing, & one set of coupling bolts, one block ring for HP piston fitted with 3 Kamelbottom springs, 1 set of feed and bilge pump valves, 1 propeller, Bolts and nuts assorted and iron of sizes

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - } See Sunderland Report No 23674 & Leith No 12164

{ During erection on board vessel - - } at Sunderland = Mar. 3.4.11.16.17, April. 17.22.24.28.30. May 1.2.8.11.12.

Total No. of visits at Sunderland = 15

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 27.12.07 Slides 13.1.08 Covers 19.12.07 Pistons 20.12.07 Rods 13.1.08

Connecting rods 13.1.08 Crank shaft 13.1.08 Thrust shaft 13.11.07 Tunnel shafts 20.11.07 Screw shaft 24.1.08 Propeller 13.1.08

Stern tube 4.2.08 Steam pipes tested 6.4.08 Engine and boiler seatings while Building Engines holding down bolts 6.4.08

Completion of pumping arrangements 10.4.08 Boilers fixed 8.4.08 Engines tried under steam 10.4.08

Main boiler safety valves adjusted 10.4.08 Thickness of adjusting washers F. Valv 5/16 ; A. Valv 3/16"

Material of Crank shaft steel Identification Mark on Do. 441 B Material of Thrust shaft steel Identification Mark on Do. 426 RA4

Material of Tunnel shafts iron Identification Marks on Do. 440 B Material of Screw shafts iron Identification Marks on Do. 438 B

Material of Steam Pipes Copper Test pressure 400 lbs

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

The machinery of this vessel has been built under special survey as per Sunderland Report No. 23674 and Leith Report No 12164. The donkey boiler has now been satisfactorily fitted in place, safety valves of same adjusted and boiler examined under steam

In my opinion the vessel is now eligible to have the notation of LMC-5.08 as recommended in the Sunderland report No. 23674.

The amount of Entry Fee... £ :
Special ... £ :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, ... 19...
When received, ... 19...

W. Morrison

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

Committee's Minute FRI. 22 MAY 1908

Assigned See Minute on Std Rpt.

23674



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