

REPORT ON MACHINERY.

No. 14213.

Received at London Office

THU. OCT. 23. 1913

Date of writing Report 20. 10. 1913. When handed in at Local Office 22. 10. 1913. Port of Leith

No. in Survey held at Leith.
Reg. Book.Date, First Survey 17th June, 1913 Last Survey 16th October, 1913.

on the

LINARES

(Yard No. 97)

(Number of Visits 14)

Tons Gross 93.6
Net 59.6

Master

Built at Leith

By whom built J. Cuan & Co.

When built 1913

Engines made at Stockholm

By whom made J. & C. G. Bolander's Co Ltd

when made 1913

Boilers made at

By whom made

when made

Registered Horse Power 80

Owners Companhia de Cabotagem de Pernambuco Port belonging to Pernambuco.

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines Bolander's 2 stroke cycle, reversible No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 330 mm Length of Stroke 340 mm Revs. per minute 325 Dia. of Screw shaft 4.52" Material of screw shaft as per rule 4.52" as fitted 4.52"

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 If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 21"

Dia. of Tunnel shaft as per rule 4.18" Dia. of Crank shaft journals as per rule 4.18" Dia. of Crank pin Size of Crank webs Dia. of thrust shaft under

collars Dia. of screw 51 3/4 Pitch of Screw 36 8/8 No. of Blades 3 State whether moveable No Total surface 7.58 sq

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps 1 Diameter of ditto 4 Stroke 4 Can one be overhauled while the other is at work

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

In Engine Room 1-2" bore. In Holds, &c. 2-2" bore

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size

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

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Cocks

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 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 3/9/13 of Stern Tube 3/9/13 Screw shaft and Propeller 4/9/13

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

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

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

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

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

each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork 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

long. 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 rules 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

bottom Thickness of plates bottom 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 End plates in steam space:

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules Material of stays

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom

Diameter at smallest part Area supported by each stay Working pressure by rules Working pressure of plate by rules

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure by rules Mean pitch of stays

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 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

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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

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:— 2 Bottom end & 2 Top end Bolts & nuts, 2 Main Bearing bolts, 1 set coupling bolts, 1 set Bilge pump valves, assorted nuts & bolts & rod iron. 1 set cylinder cover studs. 1 Propeller & propeller shaft complete 1 set circulating pump valves. 2 Hot bulbs, 2 Fuel pumps complete 2. Bottom end brasses etc

The foregoing is a correct description,

John Crane & Co. Manufacturer.

Dates of Survey while building { During progress of work in shops - - - 1913 June. 17, 28.
During erection on board vessel - - - 1913 Sept. 3, 4, 8, 11, 16, 18, 22, 23, 27. Oct. 2, 4, 9, 13, 15, 16.
Total No. of visits 16/

Is the approved plan of main boiler forwarded herewith ☒

Dates of Examination of principal parts—Cylinders ☒ Slides ☒ Covers ☒ Pistons ☒ Rods ☒

Connecting rods ☒ Crank shaft ☒ Thrust shaft ☒ Tunnel shafts 17/6 28/6/13 Screw shaft 17/6 28/6/13 Propeller 3, 4/9/13

Stern tube 3/9/13 Exhaust Steam pipes tested 4/10/13 Engine and boiler seatings 3/9/13 Engines holding down bolts 16, 23/9/13

Completion of pumping arrangements 9/10/13 Boilers fixed ☒ Engines tried under steam 9/10/13, 13/10/13

Main boiler safety valves adjusted ☒ Thickness of adjusting washers ☒

Material of Crank shaft ☒ Identification Mark on Do. Lloyd's 3524 WDH Material of Thrust shaft ☒ Identification Mark on Do. Lloyd's 3524 WDH

Material of Tunnel shafts ☒ Identification Marks on Do. Lloyd's 3524 WDH Material of Screw shafts ☒ Identification Marks on Do. Lloyd's 3524 WDH

Material of Steam Pipes ☒ Test pressure 100 lbs (Spare shafts 3535)

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

These engines have now been fitted on board in accordance with the rules. The fuel tanks have been tested & found satisfactory & fitted with drip trays & drains. The exhaust pipes have been tested to 100 lbs (Please see Secretary's letter Luth 6/10/13 re temporary fuel tanks) The compressed air reservoirs are stated to have been tested by the maker & a certificate received through the Stockholm Surveyors is now forwarded.

The engines have been tried & found to work well, ahead & astern. The maximum revolutions at full power was 323pm ahead & 315pm astern & the lowest revolutions which could be maintained for manoeuvring purposes 222 per minute.

The speed of the vessel at full power, on 4'-0 1/2" mean draft was 7.97 knots. The machinery of this vessel is eligible in my opinion to be classed + LMC 10.13

It is submitted that this vessel is eligible for THE RECORD + LMC 10.13. Oil engines 2 G, 13-13 3/8, 2 SC, SA. J & CG Bolinders C. Ltd. JWD

The amount of Entry Fee .. £ 1 When applied for, 20/10/13
Special - (Charged at Stockholm) 20/10/13
Donkey Boiler Fee .. £ : : When received, 7-11-13
Travelling Expenses (if any) £ : : 7-11-13

Committee's Minute

Assigned

FRI. OCT. 24. 1913

+ L.M.C. 10.13
oil engines

MACHINERY CERTIFICATE
WRITTEN



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