

REPORT ON MACHINERY.

No. 31844.
WED. SEP. 18. 1912

Received at London Office

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Date of writing Report

When handed in at Local Office

14.9.12 Port of Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

11.11.11

Last Survey

10.9.1912

1948 on the

T. S. S. "Infanta Isabel"

(Number of Visits)

35

Gross

8170.

Tons

Net

4844.

Master

Built at Port Glasgow By whom built Russell & Co.

When built 1912

Engines made at

Glasgow

By whom made

David Rowan & Co. 592/3. when made 1912

Boilers made at

Glasgow

By whom made

David Rowan & Co. when made 1912

Registered Horse Power

Owners Pinillos, Aguirre & Co.

Port belonging to Cadiz

Nom. Horse Power as per Section 28

1134

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Twin Screw Quadruple

No. of Cylinders

No. of Cranks

Dia. of Cylinders (24 1/2 - 35 - 50 - 72) x 2 Length of Stroke 51" Revs. per minute 80 Dia. of Screw shaft as per rule 14 5/8 Material of screw shaft as fitted 16" 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 — 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 If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5' 3"

Dia. of Tunnel shaft as per rule 13 1/4 Dia. of Crank shaft journals as per rule 14 1/4 Dia. of Crank pin 14 3/4 Size of Crank webs 9 3/4 Dia. of thrust shaft under

collars 15" Dia. of screw 17-0" Pitch of Screw 21-6" No. of Blades 4 State whether moveable No Total surface 99 sq ft each

No. of Feed pumps 4 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work Yes Pr. Weirs. 11 1/2 - 15 1/2 x 26"

No. of Bilge pumps 4 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work Yes Ans. Fed. 8 - 10 1/2 - 21"

No. of Donkey Engines 5 Sizes of Pumps 9-12 x 12, 8-8 x 8, 8-8 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 3 1/2" In Holds, &c. 2 3 1/2" each hold

No. of Bilge Injections 2 sizes 8" Connected to condenser, or to circulating pump Pump 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

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 Others 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 7 or 8" Suctions How are they protected Wood covering

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 of Stern Tube of Screw shaft and Propeller Greenock Rpt.

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight doors Yes worked from Top grating

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel William Beardmore & Co Ltd

30E = 14970. 2 SE = 5640 # The Steel Company of Scotland Ltd

Total Heating Surface of Boilers 20610 Is Forced Draft fitted no No. and Description of Boilers 3 D.C. & 2 S.C.

Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 9/5/12 No. of Certificate 11573

Can each boiler be worked separately Yes Area of fire grate in each boiler 150 sq ft (D.E.) No. and Description of Safety Valves to

each boiler Double spring Area of each valve 12.56 Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 26 1/2" Mean dia. of boilers 16.6 Length 19.0 Material of shell plates steel

Thickness 1 1/2", 1 7/32" Range of tensile strength 28,495 to 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D. R. L.

long. seams D. B. S. Diameter of rivet holes in long. seams 19/16 Pitch of rivets 10 1/2" Lap of plates or width of butt straps 23"

Per centages of strength of longitudinal joint rivets 88.6 plate 85.1 Working pressure of shell by rules 215 lbs Size of manhole in shell 17" x 13"

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 8 Dighton Material steel Outside diameter 3'-9 1/2"

Length of plain part top bottom Thickness of plates crown 58 Description of longitudinal joint wild No. of strengthening rings

Working pressure of furnace by the rules 222 Combustion chamber plates: Material steel Thickness: Sides 2 5/32 Back Top 2 5/32 Bottom 7/8"

Pitch of stays to ditto: Sides 10 x 9 3/4 Back Top 10 x 9 3/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 218

Material of stays steel Diameter at smallest part 2.395 Area supported by each stay 97 Working pressure by rules 222 End plates in steam space:

Material steel Thickness 1 7/16 Pitch of stays 20.68 How are stays secured D. rule Working pressure by rules 215 Material of stays steel

Diameter at smallest part 2.6 Area supported by each stay 420 Working pressure by rules 240 Material of Front plates at bottom steel

Thickness 7/8 Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates steel Thickness: Front 1" Back 7/8 Mean pitch of stays 10.9 x 11 1/2

Pitch across wide water spaces 13 3/8 Working pressures by rules 215 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 11 x 1 x 2 Length as per rule 40 1/4 Distance apart 9 3/4 Number and pitch of stays in each 3 at 10"

Working pressure by rules 215 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

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Lloyd's Register
FoundationDouble Ended Boilers. See Rpt 5a for
particulars of Single Ended.18.20.22.26.
4.5.6.15.14
21.22.23.26
2.23.20 Aug.
of Visits 106.

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. *None* Description *None*

Made at *None* By whom made *None* When made *None* Where fixed *None*

Working pressure tested by hydraulic pressure to *None* Date of test *None* No. of Certificate *None* Fire grate area *None* Description of Safety Valves *None*

No. of Safety Valves *None* Area of each *None* Pressure to which they are adjusted *None* Date of adjustment *None*

If fitted with easing gear *None* If steam from main boilers can enter the donkey boiler *None* Dia. of donkey boiler *None* Length *None*

Material of shell plates *None* Thickness *None* Range of tensile strength *None* Descrip. of riveting long. seams *None*

Dia. of rivet holes *None* Whether punched or drilled *None* Pitch of rivets *None* Lap of plating *None* Per centage of strength of joint *None*

Working pressure of shell by rules *None* Thickness of shell crown plates *None* Radius of do. *None* No. of stays to do. *None* Dia. of stays *None*

Diameter of furnace Top *None* Bottom *None* Length of furnace *None* Thickness of furnace plates *None* Description of joint *None*

Working pressure of furnace by rules *None* Thickness of furnace crown plates *None* Radius of do. *None* Stayed by *None*

Diameter of uptake *None* Thickness of uptake plates *None* Thickness of water tubes *None* Dates of survey *None*

SPARE GEAR. State the articles supplied:—Two top end bolts, 2 bottom end bolts, 2 main bearing bolts, set of coupling bolts all with nuts, feed & bilge pump valves, assorted bolts, iron etc. Also 1 propeller shaft & 2 blades, Thrust shaft, 1 section crank shaft, top & bottom end bushes, eccentric with strap & rod, etc, etc.

The foregoing is a correct description,

for David Rowan & Co. Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1911. Nov. 11. 1912. Jan. 31. Feb. 6. 16. March 6. 8. 18. 20. April 2. 11. 15. 19. May 1. 9. 13. 21. 22. 31. June 13. 18. 26. 27. 29. July 1. 5. 18. 30. Aug. 1. 8. 27. 31. Sept. 2. 5. 7. 10. 35. Total No. of visits

Is the approved plan of main boiler forwarded herewith *Yes - two*

Dates of Examination of principal parts—Cylinders 15/4/12 etc. Slides 18/6/12 Covers 18. 6-12 Pistons 18. 6-12 Rods 21. 5-12 Connecting rods 21. 5-12 Crank shaft 15. 4-12 Thrust shaft 18. 6-12 Tunnel shafts 27. 6-12 Screw shaft 22. 5-12 Propeller 12. 6-12 Stern tube 12. 6-12 Steam pipes tested 31/8/12 etc. Engine and boiler seatings 18. 7-12 Engines holding down bolts 8. 8-12 Completion of pumping arrangements 5. 9-12 Boilers fixed 8. 8-12 Engines tried under steam 10. 9-12 Main boiler safety valves adjusted 7. 9-12 Thickness of adjusting washers F.P. 3/4 5/16, F.S. 7/16, 3/4, P.A. 1/4, 5/16, C.A. 1/32, 7/16, S.A. 1/4, 1/2

Material of Crank shaft *steel* Identification Mark on Do. *H.F.S.* Material of Thrust shaft *steel* Identification Mark on Do. *H.F.S.*

Material of Tunnel shafts *steel* Identification Marks on Do. *H.F.S.* Material of Screw shafts *steel* Identification Marks on Do. *H.F.S.*

Material of Steam Pipes *Iron* Test pressure *645 lb.*

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

The engines & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is in my opinion eligible for notation *L M C 9, 12* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.12.

J.W.D.
J.M. 19/9/12

H. Gardner-Smith
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee .. £ 3 : 0 :
Special .. £ 76 : 14 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 11. 9. 12
When received, 13. 9. 12.

Committee's Minute GLASGOW 17 SEP. 1912

Assigned + LMC 9-12.