

REPORT ON MACHINERY.

No. 26070
THU. FEB. 19, 1914

Date of writing Report 11-2-1914 When handed in at Local Office 14-2-1914 Port of **SUNDERLAND.**

No. in Survey held at **SUNDERLAND.** Date, First Survey 15 Oct. 12 Last Survey 10-2-1914

Supp 98 on the new steel S/S "SAN JERONIMO" (Number of Visits 55)

Master **H. M. Young** Built at **Sunderland** By whom built **W. Doxford & Sons Ltd (No 457)** When built 1914

Engines made at **Sunderland** By whom made **W. Doxford & Sons Ltd (No 457)** when made 1914

Boilers made at **Sunderland** By whom made **W. Doxford & Sons Ltd (No 457)** when made 1914

Registered Horse Power Owners **The Eagle Oil Transport Co. Ltd** Port belonging to **London**

Nom. Horse Power as per Section 28 **795** Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines **Quadruple** No. of Cylinders **4** No. of Cranks **4**

Dia. of Cylinders **28 1/2 41 58 84** Length of Stroke **54** Revs. per minute **68** Dia. of Screw shaft as per rule **17** Material of screw shaft **steel**

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight in the propeller boss

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 **6-3 1/2**

Dia. of Terminal shaft as per rule **15-26** Dia. of Crank shaft journals as per rule **16** Dia. of Crank pin **16 1/4** Size of Crank webs **24 x 11 1/4** Dia. of thrust shaft under collars **16 1/4**

Dia. of screw **20-3** Pitch of Screw **18-9** No. of Blades **4** State whether moveable Total surface **130 1/2**

No. of Feed pumps **2** Diameter of ditto **5 3/4** Stroke **28** Can one be overhauled while the other is at work

No. of Bilge pumps **2** Diameter of ditto **5 3/4** Stroke **28** Can one be overhauled while the other is at work

No. of Donkey Engines **5** Sizes of Pumps **BAL-12 & 14 x 15 GEN-9 & 6 x 10 DISTILLER 7 & 7 1/2 WEIR'S REC-13 & 10 x 21 ALX. COND-3 & 6 x 8** No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room **Four @ 3 1/2** In Holds, &c. **Three @ 2 1/2 in cargo hold and two @ 2 1/2 in fore peak flat - all connected to forward ballast pumps only.**

No. of Bilge Injections **1** sizes **15** Connected to condenser, or to circulating pump **C.P.** Is a separate Donkey Suction fitted in Engine room & size **11"**

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates 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 Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers **oil fuel pipes** How are they protected **not protected (not fitted forward)**

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Dates of examination of completion of fitting of Sea Connections **13-12-13** of Stern Tube **8-12-13** Screw shaft and Propeller **17-12-13**

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

BOILERS, &c.—(Letter for record **(R)**) Manufacturers of Steel **John Spencer & Sons Ltd. (Samuel Tippack & Co. Ltd. 2000 bars)**

Total Heating Surface of Boilers **11433 1/2** Is Forced Draft fitted No. and Description of Boilers **Four single ended marine**

Working Pressure **220** Tested by hydraulic pressure to **440** Date of test **16-10-13** No. of Certificate **3159**

Can each boiler be worked separately Area of fire grate in each boiler **improving grate** No. and Description of Safety Valves to each boiler **two direct spring**

Area of each valve **9.6 sq"** Pressure to which they are adjusted **225** Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork **5'-0"** Mean dia. of boilers **16-3** Length **12-0** Material of shell plates **steel**

Thickness **15/8** Range of tensile strength **31 3/4 to 35 tons** Are the shell plates welded or flanged Descrip. of riveting: cir. seams **CENTRE-T.R. ENDS-DR.**

long. seams **DBSTR** Diameter of rivet holes in long. seams **15/8** Pitch of rivets **10 1/2** Lap of plates or width of butt straps **1-11 1/4**

Per centages of strength of longitudinal joint rivets **92.6** Working pressure of shell by rules **258** Size of manhole in shell **16 x 12**

Size of compensating ring **32 1/2 x 28 1/2 x 1 1/8** No. and Description of Furnaces in each boiler **4 Brighton bar** Material **steel** Outside diameter **3-9 1/4**

Length of plain part **top 1 1/2 bottom 1 1/2** Thickness of plates **top 1 1/2 bottom 1 1/2** Description of longitudinal joint **welded** No. of strengthening rings

Working pressure of furnace by the rules **242** Combustion chamber plates: Material **steel** Thickness: Sides **1 1/2** Back **1 1/2** Top **1 1/2** Bottom **1 1/2**

Pitch of stays to ditto: Sides **7 1/8 x 7 1/8** Back **7 1/8 x 7 1/8** Top **7 1/8 x 7 1/8** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **292**

Material of stays **Iron** Diameter at smallest part **2.03 sq"** Area supported by each stay **61 sq"** Working pressure by rules **250** End plates in steam space:

Material **steel** Thickness **1 5/32** Pitch of stays **16 1/8 x 17** How are stays secured **DNH wash** Working pressure by rules **280** Material of stays **steel**

Diameter at smallest part **8.48 sq"** Area supported by each stay **287 sq"** Working pressure by rules **307** Material of Front plates at bottom **steel**

Thickness **7/8** Material of Lower back plate **steel** Thickness **3/2** Greatest pitch of stays **14 x 7 1/8** Working pressure of plate by rules **220**

Diameter of tubes **2 1/2** Pitch of tubes **3 3/4 x 3 5/8** Material of tube plates **steel** Thickness: Front **15/32** Back **3/4** Mean pitch of stays **8**

Pitch across wide water spaces **13 1/2** Working pressures by rules **280** Girders to Chamber tops: Material **steel** Depth and thickness of girder at centre **20 9/16 x 3 1/4** Length as per rule **33 9/16** Distance apart **7 1/8** Number and pitch of stays in each **30 x 7 1/8**

Working pressure by rules **221** Superheater or Steam chest; how connected to boiler **none** Can the superheater be shut off and the boiler worked separately

Vertical text on left margin: 11-2-14, 14-2-14, 15-10-12, 10-2-14, 55, 10.067, 6.200, 1914, 1914, 1914, London, 795, no, yes, 4, 4, 28 1/2, 41, 58, 84, 54, 68, 17, steel, 17 1/2, yes, yes, 6-3 1/2, 15-26, 16, 16 1/4, 24 x 11 1/4, 16 1/4, 20-3, 18-9, 4, 130 1/2, 2, 5 3/4, 28, yes, 2, 5 3/4, 28, yes, 5, BAL-12 & 14 x 15, GEN-9 & 6 x 10, DISTILLER 7 & 7 1/2, WEIR'S REC-13 & 10 x 21, ALX. COND-3 & 6 x 8, Four @ 3 1/2, Three @ 2 1/2 in cargo hold and two @ 2 1/2 in fore peak flat - all connected to forward ballast pumps only, 1, 15, C.P., yes, 11", yes, yes, both, yes, above, yes, not protected (not fitted forward), yes, yes, 13-12-13, 8-12-13, 17-12-13, none, machinery worked from, John Spencer & Sons Ltd. (Samuel Tippack & Co. Ltd. 2000 bars), 11433 1/2, 440, 16-10-13, 3159, yes, improving grate, two direct spring, 9.6 sq", 225, yes, 5'-0", 16-3, 12-0, steel, 15/8, 31 3/4 to 35 tons, CENTRE-T.R. ENDS-DR., DBSTR, 15/8, 10 1/2, 1-11 1/4, 92.6, 258, 16 x 12, 32 1/2 x 28 1/2 x 1 1/8, 4 Brighton bar, steel, 3-9 1/4, top 1 1/2, bottom 1 1/2, welded, 242, steel, 1 1/2, 1 1/2, 1 1/2, 1 1/2, 292, Iron, 2.03 sq", 61 sq", 250, steel, 1 5/32, 16 1/8 x 17, DNH wash, 280, steel, 8.48 sq", 287 sq", 307, steel, 7/8, steel, 3/2, 14 x 7 1/8, 220, 2 1/2, 3 3/4 x 3 5/8, steel, 15/32, 3/4, 8, 13 1/2, 280, steel, 20 9/16 x 3 1/4, 33 9/16, 7 1/8, 30 x 7 1/8, 221, none, 103, 2019, Lloyd's Register Foundation, W27-0188

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
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
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	

ONE FITTED

SPARE GEAR. State the articles supplied:—Two top & two bottom end connecting rod bolts & nuts, four main bearing bolts, one set of coupling bolts, iron and bolts of various sizes. Two sets of feed and bilge pump valves, one tail shaft, two cast-steel propeller blades, one slide spindle, one eccentric complete, one bottom end bearing, one air pump rod, one set of rings for each piston.

OIL FUEL PUMPS:— one brass rod with piston & bucket, 4 slide spindles slides & glands, 1/2 set valves, one distribution box for boiler fronts complete with all copper pipes & connections.

The foregoing is a correct description,

WILLIAM DOXFORD & SONS, Limited.

Manufacturer.

Dates of Survey while building	During progress of work in shops	1914 Oct 15, 18, Nov 22, Jan 7, 15, 28, Feb. 20, Mar 6, 13, 21	<u>A. E. Doxford</u> Director
	During erection on board vessel	Apr. 11, 29, 30, May 1, 19, 22, 26, Jun 6, 12	
	Total No. of visits	23, 29 Feb. 5, 6, 10 (55)	

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 9-5-13 Slides 29-7-13 Covers 15-1-13 Pistons 13-3-13 Rods 19-5-13

Connecting rods 2-7-13 Crank shaft 22-11-13 Thrust shaft 11-8-13 Tunnel shafts 18-12-13 Screw shafts 5-9-13 Propeller 27-8-13

Stern tube 26-9-13 Steam pipes tested Shf sur Engine and boiler seatings 26-11-13 Engines holding down bolts 19-1-14

Completion of pumping arrangements 10-2-14 Boilers fixed 9-1-14 Engines tried under steam 10-2-14

Main boiler safety valves adjusted 29-1-14 Thickness of adjusting washers FP. P¹³/₃₂ S⁷/₁₆. FS. P¹³/₃₂ S⁷/₁₆. AP. P¹³/₃₂ S⁷/₁₆. AS. P⁷/₁₆ S¹³/₃₂.

Material of Crank shaft 9 steel Identification Mark on Do 2245MB Material of Thrust shaft 9 steel Identification Mark on Do 2388 MB
one intermediate
 Material of Tunnel shaft 9 steel Identification Marks on Do 7812 JM Material of Screw shafts 9 steel Identification Marks on Do 8591 KH

Material of Steam Pipes Steel lapwelded 16 stamped LOR Test pressure 660 lbs see old ltr. 20/2/14.

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

The materials and workmanship are good.

The machinery has been made under special survey and is eligible in my opinion for classification and the records * LMC 2-14.

"Fitted for low flash oil fuel 2-14". "Wireless".

The boilers are fitted for burning low flash oil fuel on the Wallsend-Horden system. The requirements of Section 49 have been adhered to as far as they are applicable.

It is submitted that this vessel is eligible for **THE RECORD, + LMC 2. 14. F.D.**

Fitted for low flash oil fuel. 2. 14.

J.W.D. 20/2/14
J.P.P.

The amount of Entry Fee	£ 3 : - : -	When applied for.	18-2-14
Special	£ 59 : 15 : -	When received.	21-2-14
Donkey Boiler Fee	£ : : -		
Travelling Expenses (if any)	£ : : -		

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

Committee's Minute TUE. FEB. 24. 1914

Assigned + L.M.C. 2. 14.
Fitted for low flash oil fuel 2. 14.



Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)