

## REPORT ON MACHINERY.

No. 26224

Received at London Office

MON. SEP. 7. 1914

Date of writing Report 4-9-14 When handed in at Local Office

5-9-14 Port of

SUNDERLAND.

No. in Survey held at  
Reg. Book.

SUNDERLAND.

Date, First Survey 20th Feb 1914 Last Survey 3-9-1914

(Number of Visits 51)

on the new steel S/S "SAN NAZARIO"

Tons Gross 10,064  
Net 6,209

Master W. Latta. Built at Sunderland By whom built W. D. Oxford &amp; Sons Ltd (No. 459) When built 1914

Engines made at Sunderland By whom made W. D. Oxford &amp; Sons Ltd (No. 459) when made 1914

Boilers made at Sunderland By whom made W. D. Oxford &amp; Sons Ltd (No. 459) 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 No Is Electric Light fitted Yes

**ENGINES, &c.—Description of Engines Quadruple**

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 J. steel  
as fitted 17 1/2"

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 No 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 No If two

liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 6'-3 1/2"

Dia. of Tunnel shaft as per rule 15.26" Dia. of Crank shaft journals as per rule 16" Dia. of Crank pin 16 1/2" Size of Crank webs 24" x 11 1/4" Dia. of thrust shaft under  
as fitted 15 3/4" as fitted 16 1/2"

collars 16 1/4" Dia. of screw 20'-3" Pitch of Screw 18'-9" No. of Blades 4 State whether moveable Yes Total surface 1300 sq ft

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

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

No. of Donkey Engines 5 GENERAL OIL WORKABLE BY HAND Sizes of Pumps GAL. 1200000 WEIRS FEED-1321000 21  
CAN. 36 9+10 AUX CONDENS-520008 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four @ 3 1/2" In Holds, &c. Cargo hold - three @ 2 1/2" Fire peak

flak. - two @ 2 1/2" - all connected to forward ballast pump 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 Yes. 11"

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 oil fuel pipes How are they protected Not protected (not fitted for coal)

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 21-5-14 of Stern Tube 5-5-14 Screw shaft and Propeller 15-6-14

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Machinery worked from

**BOILERS, &c.—(Letter for record (7)) Manufacturers of Steel J. M. Spencer & Sons Ltd (Samuel Izzack & Co. Ltd - 2000)**

Total Heating Surface of Boilers 11433 sq ft Forced Draft fitted Yes No. and Description of Boilers Four single ended marine

Working Pressure 220 Tested by hydraulic pressure to 440 Date of test 6-5-14 No. of Certificate 3212

Can each boiler be worked separately Yes Area of fire grate in each boiler (no provision for grate) No. and Description of Safety Valves to  
each boiler two direct spring Area of each valve 9.60" Pressure to which they are adjusted 225 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-11" Mean dia. of boilers 16'-3" Length 12'-0" Material of shell plates Steel  
CENTRE-T.R. ENDS-DR.

Thickness 1 5/8" Range of tensile strength 31 3/4 to 35 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams

long. seams DBS, T.R. Diameter of rivet holes in long. seams 1 5/8" Pitch of rivets 10 1/4" Lap of plates or width of butt straps 1'-11 1/4"

Per centages of strength of longitudinal joint rivets 92.6 plate 84.1 Working pressure of shell by rules 258 Size of manhole in shell 16" x 12"

Size of compensating ring 1 3/8" THICK No. and Description of Furnaces in each boiler 4 Deighton bond Material Steel Outside diameter 3'-9 1/4"

Length of plain part top 43" bottom 64" Description of longitudinal joint welded No. of strengthening rings 4

Working pressure of furnace by the rules 242 Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 1"

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 2.030" Area supported by each stay 610" Working pressure by rules 250 End plates in steam space:

Material Steel Thickness 1 5/32" Pitch of stays 16 7/8" x 17" How are stays secured DN & wash Working pressure by rules 250 Material of stays Steel

Diameter at smallest part 8480" Area supported by each stay 2870" Working pressure by rules 307 Material of Front plates at bottom Steel

Thickness 7/8" Material of Lower back plate Steel Thickness 2 3/32" Greatest pitch of stays 14" x 7 7/8" 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 1 5/32" 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 209 3/4" x 3 1/4" Length as per rule 33 9/16" Distance apart 7 7/8" Number and pitch of stays in each 3 @ 7 7/8"

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 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



Rpt. 9.  
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IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— Two top & two bottom end connecting rod bolts & nuts  
two sets of coupling bolts four main bearing bolts iron and bolts of various sizes one set  
of feed and bilge pump valves one tail shaft one propeller blade one slide spindle  
one eccentric complete one bottom end bearing one air pump rod on set of  
rings for each piston. two valves and seats for oil fuel pumps one  
distribution box for boiler fronts with pipe and connections for oil fuel.

The foregoing is a correct description,  
WILLIAM DOXFORD & SONS, Limited

*W. E. Doxford* Director Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1913 Feb. 20. Mar. 6. 13. Apr. 29. 30. May 1. Aug. 11. 27. Sep. 5. 11. Oct. 3. 16. 24. Nov. 3. 10. 18. 21. Dec. 17.  
{ During erection on board vessel - - - } 18. 31. Jan. 5. 7. 13. 15. 30. Feb. 2. 12. 16. 25. Mar. 4. 16. 25. Apr. 2. 7. 17. 27. May 5. 6. 21. 29. Jan. 9. 15.  
Total No. of visits 26. Jul. 2. 20. 30. 31. Aug. 10. 17. 24. Sep. 3.  
(51) Is the approved plan of main boiler forwarded herewith *yes*  
" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 5-9-13 Slides 2-4-14 Covers 1-5-13 Pistons 11-8-13 Rods 11-8-13  
Connecting rods 5-1-14 Crank shaft 20-12-12 Thrust shaft 3-11-13 Tunnel shafts 21-5-14 Screw shafts 25-3-14 Propeller 4-3-14  
Stern tube 17-4-14 Steam pipes tested *Sh. Surveyor* Engine and boiler seatings 5-5-14 Engines holding down bolts 31-7-14  
Completion of pumping arrangements 3-9-14 Boilers fixed 30-7-14 Engines tried under steam 17-8-14  
Main boiler safety valves adjusted 17-8-14 Thickness of adjusting washers *FP, P<sub>5</sub>, 5 7/16. FS, P<sub>7</sub>, 5 11/16. AP, P<sub>7</sub>, 5 13/16. AS both 7/16.*  
Material of Crank shaft *9. Steel* Identification Mark on Do. 4389 H.K. Material of Thrust shaft *9. Steel* Identification Mark on Do. 234 W.S.  
Material of <sup>THE INTERMEDIATE</sup> Tunnel shafts *9. Steel* Identification Marks on Do. 5375 H.K. Material of Screw shafts *9. Steel* Identification Marks on Do. 235 W.S. & 2925 M.B.  
Material of Steam Pipes *Steel, lap welded, 16 stamped LOR* Test pressure 660 pounds per square inch  
Is an installation fitted for burning oil fuel *yes* Is the flash point of the oil to be used over 150°F. *no*  
Have the requirements of Section 49 of the Rules been complied with *yes* (Wallsend Houlder System)  
Is this machinery duplicate of a previous case *yes* If so, state name of vessel *"San Geronimo"*

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 9-14."  
Fitted for low flash oil fuel 9-14 "Wireless".

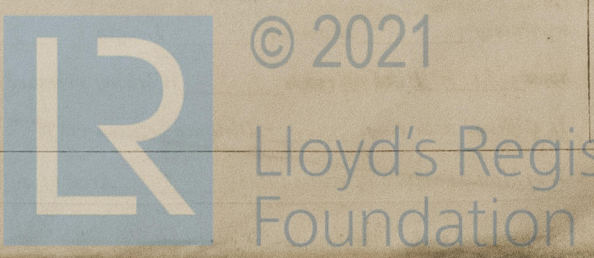
It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 9. 14. F.D.  
Fitted for low flash oil fuel. 9. 14.

*J. M. J. W. D.*  
8/9/14

The amount of Entry Fee ... £ 3 : :  
Special ... £ 59 : 15 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 5-9-1914  
When received, 8/9/14

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

Committee's Minute TUE SEP-8-1914  
Assigned + L.M.C. 9. 14  
Fitted for low flash oil fuel 9. 14  
F.D.



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