

REPORT ON MACHINERY.

No. 65301

MON. DEC. 22. 1913

Received at London Office
NEWCASTLE-ON-TYNE.

Date of writing Report 12th Dec 1913 When handed in at Local Office 19 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Newcastle Date, First Survey 6th Aug 1912 Last Survey 12th Dec 1913
Reg. Book. on the S.S. "San Balesio" Number of Visits 91

Master Built at Newcastle By whom built Palmees' Co Tons { Gross 6433
Net 4054
When built 1913

Engines made at Newcastle By whom made Palmees' Co when made 1913

Boilers made at do By whom made do when made 1913

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

Nom. Horse Power as per Section 28 554 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 24"-35"-50 1/2"-73" Length of Stroke 51" Revs. per minute 75 Dia. of Screw shaft as per rule 1.5"-2.6" Material of Steel
as fitted 1.5 3/4" screw shaft
 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 Yes 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 Yes Length of stern bush 5'-3"
 Dia. of Intermediate shaft as per rule 1.3"-4.5" Dia. of Crank shaft journals as per rule 1.4"-1.2" Dia. of Crank pin 1 1/2" Size of Crank webs 20 3/8" x 9 3/4" Dia. of thrust shaft under
as fitted 1 1/2" collars 1 1/2" Dia. of screw 1 1/2" Pitch of Screw 16'-3" No. of Blades 4 State whether moveable Yes Total surface 108 sq
 No. of Feed pumps 2 Diameter of ditto 4 3/4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 10x12x12 + 8x6x8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Four 3 1/2" In Holds, &c. None

No. of Bilge Injections 1 sizes 12" Connected to condenser or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 9"
 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 Both
 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 None How are they protected Yes
 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 21-10-13 of Stern Tube 21-10-13 Screw shaft and Propeller 29-10-13

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

BOILERS, &c.—(Letter for record R) Manufacturers of Steel J. Spence & Sons + Palmees' Co
 Total Heating Surface of Boilers 7734 sq Is Forced Draft fitted Yes No. and Description of Boilers 3 Single-ended
 Working Pressure 220 lbs Tested by hydraulic pressure to 440 lbs Date of test 13-6-13 No. of Certificate 8516
 Can each boiler be worked separately Yes Area of fire grate in each boiler 57 sq No. and Description of Safety Valves to
 each boiler Two, Spring Area of each valve 7.07 sq Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 26" Mean dia. of boilers 15'-6" Length 11'-9" Material of shell plates Steel
 Thickness 1 1/8" Range of tensile strength 32-35 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams S. Lap
 long. seams 4BS + Riv Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 9 3/8" Lap of plates or width of butt straps 22 1/2"
 Per centages of strength of longitudinal joint rivets 101 Working pressure of shell by rules 258 lbs Size of manhole in shell 16" x 12"
 plate 83 Size of compensating ring 36 1/2" x 32 1/2" x 1 1/8" No. and Description of Furnaces in each boiler 3, Saighton's Material Steel Outside diameter 48"
 Length of plain part top Thickness of plates crown 23/32" Description of longitudinal joint Welded No. of strengthening rings
 bottom Working pressure of furnace by the rules 248 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 3/32"
 Pitch of stays to ditto: Sides 8 1/2" x 7 1/2" Back 7 1/2" x 7 1/2" Top 8 3/8" x 7 3/8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 254 lbs
 Material of stays Iron Diameter at smallest part 2.03" Area supported by each stay 61.76 sq Working pressure by rules 245 lbs End plates in steam space:
 Material Steel Thickness 1 1/8" Pitch of stays 16 1/2" x 16" How are stays secured Sn + W Working pressure by rules 226 lbs Material of stays Steel
 Diameter at smallest part 7.24" Area supported by each stay 264 sq Working pressure by rules 275 lbs Material of Front plates at bottom Steel
 Thickness 1 7/8" Material of Lower back plate Steel Thickness 3/32" Greatest pitch of stays 14" Working pressure of plate by rules 250 lbs
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 1 7/8" Back 2 9/32" Mean pitch of stays 8 7/8"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 236 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 1/4" x 1 3/4" Length as per rule 32 1/2" Distance apart 8 3/8" Number and pitch of stays in each 3-7 3/4"
 Working pressure by rules 233 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes 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 Yes 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

004235-004242-0044

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *Two top-end, 2 bottom-end + 2 main-bearing bolts & nuts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, 1 set of rings for each piston, a quantity of assorted bolts, nuts & iron, a screw shaft, a propeller boss, 2 propeller blades, a slide valve spindle, a pair of crank pin bushes, 1 eccentric sheave & strap, 1 air pump rod, 2 safety valve springs.*

The foregoing is a correct description,

Salmon & Co. Ltd.

Manufacturer.

General Manager, Engine Works Dept.

Dates of Survey while building	During progress of work in shops ---	1912	Aug 6, 7, 8, 15, 16, 21, 26, 27, 28, 29, Sep 3, 9, 10, 16, 23, 25, 26, Oct 10, 15, 28, 29, Nov 5, 6, 13, 27, Dec 5, 16, 17
		1913	Jan 7, 9, 16, 17, 20, 24, 25, 30, Feb 4, 5, 10, 12, 14, 21, 24, Mar 5, 6, 7, 11, 26, Apr 4, 7, 17, 20, 25
		1913	May 6, 14, 29, Jun 3, 5, 13, Jul 10, 25, Aug 7, 11, 19, 21, 27, 29, Sep 4, 16, 19, 29, 30, Oct 2, 6, 15, 17, 21, 29, 30, Nov 3, 5, 25, Dec 1, 2, 4, 5, 8, 10, 11, 12
	Total No. of visits	<i>91</i>	Is the approved plan of main boiler forwarded herewith <i>yes</i>

Dates of Examination of principal parts—Cylinders *27-11-12* Slides *9-1-13* Covers *8-8-12* Pistons *15-10-12* Rods *9-1-13*
 Connecting rods *27-11-12* Crank shaft *21-2-13* Thrust shaft *21-2-13* Tunnel shafts *3-9-13* Screw shaft *5-6-13* Propeller *5-6-13*
 Stern tube *2-10-13* Steam pipes tested *1-12-13* Engine and boiler seatings *30-9-13* Engines holding down bolts *4-12-13*
 Completion of pumping arrangements *5-12-13* Boilers fixed *4-12-13* Engines tried under steam *5-12-13*

Main boiler safety valves adjusted *5-12-13* Thickness of adjusting washers *PB. P¹³/₃₂ S¹³/₃₂ SB. P⁷/₁₆ S³/₈ FB P⁷/₁₆ S⁷/₁₆*
 Material of Crank shaft *Steel* Identification Mark on Do. *Y 2-13* Material of Thrust shaft *Steel* Identification Mark on Do. *Y 2-13*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *Y 9-13* Material of Screw shafts *Steel* Identification Marks on Do. *Y 6-13*
 Material of Steam Pipes *Steel* Test pressure *440 lbs*

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*
 Is this machinery duplicate of a previous case *no* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam and the safety valves adjusted at the working pressure. The boilers have been fitted for burning oil fuel on the Wallsend-Howden system and the special requirements for low-flash oil have been complied with. The approved plan of oil burning arrangement is forwarded herewith, please refer to it for reference in the case of the sister vessel. A report on the electric installation will be forwarded when received from the electricians.*

The machinery is now in good & safe working condition & eligible in my opinion to have the notations of + LMC 12-13 fitted for low flash oil fuel 12-13.
 It is submitted that this vessel is eligible for THE RECORD + LMC 12.13. FD
 Fitted for low flash oil fuel 12.13.

The amount of Entry Fee ...	£ 3 : 0 0	When applied for DEC 16 1913
Special ...	£ 47 : 14 0	
Donkey Boiler Fee ...	£ ✓ : ✓	When received <i>22/12/13</i>
Travelling Expenses (if any) £	✓ : ✓	

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

Committee's Minute *TUE. DEC. 23. 1913*
 Assigned *Home 12.13*
fitted for low flash oil fuel 12.13



NEWCASTLE-ON-TYNE.

Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

MACHINERY CERTIFICATE