

Rpt. 4.

REPORT ON MACHINERY.

No. 25759
FRI, JUL 18, 1913

Received at London Office

Date of writing Report 19 When handed in at Local Office 16-7-13 Port of Sunderland
No. in Survey held at Sunderland Date, First Survey 17 Jan Last Survey 14-7-1913
Reg. Book. on the new steel S/S "MOTO". (Number of Visits 34) Gross 1941 Tons Net 1082
Master Purvis Built at Sunderland By whom built S. Paulin & Son Ltd. 268 When built 1913
Engines made at Sunderland By whom made George Black Ltd (No 986) when made 1913
Boilers made at Sunderland By whom made George Black Ltd (No 986) when made 1913
Registered Horse Power Owners The Pelton S/S Co Ltd Port belonging to Newcastle
Nom. Horse Power as per Section 28 221 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 21" 34" 56" Length of Stroke 39" Revs. per minute 70 Dia. of Screw shaft as per rule 11.75" Material of screw shaft 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 If two
liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 4'-0"
Dia. of Tunnel shaft as per rule 10.498" Dia. of Crank shaft journals as per rule 11.02" Dia. of Crank pin 11 1/8" Size of Crank webs 16 1/2 x 7 1/2" Dia. of thrust shaft under
collars 11 3/4" Dia. of screw 14'-6" Pitch of Screw 16'-0" No. of Blades 4 State whether moveable No Total surface 61 ft²
No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 24" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work yes
No. of Donkey Engines 3 Sizes of Pumps 20" 9" 10" 10" 8" 10" 6" 4" 6" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room - Three @ 3" In Holds, &c. Fine holdwell @ 3 1/2" After hold well, 10 3/8"
Tunnel well - 1 @ 3"
No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump G.P. Is a separate Donkey Suction fitted in Engine room & size yes 4 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 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 none 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 2-6-13 of Stern Tube 2-6-13 Screw shaft and Propeller 2-6-13
Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top platform!

BOILERS, &c.—(Letter for record (S) Manufacturers of Steel John Spence & Sons Limited 2, S.B.
Total Heating Surface of Boilers 3514 ft² Is Forced Draft fitted No No. and Description of Boilers Two single ended marine
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 5-6-13 No. of Certificate 3118
Can each boiler be worked separately yes Area of fire grate in each boiler 54 ft² No. and Description of Safety Valves to
each boiler two direct spring Area of each valve 7.67 ft² Pressure to which they are adjusted 185 Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 4'-6" ext. dia. of boilers 13'-9" Length 10'-9" Material of shell plates steel
Thickness 1 1/16" Range of tensile strength 29 1/2-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams B.R.
long. seams B.B.S.T.R. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 1/16" Lap of plates or width of butt straps 16"
Per centages of strength of longitudinal joint rivets 87.5% Working pressure of shell by rules 181 Size of manhole in shell 16" x 13"
Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3'-5 1/2"
Length of plain part top 6'-5 1/16" Thickness of plates crown 3/64" Description of longitudinal joint welded No. of strengthening rings none
bottom 5'-10 1/2" bottom 3/64" Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 1/16"
Working pressure of furnace by the rules 184 Combustion chamber plates: Material steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 1/16"
Pitch of stays to ditto: Sides 10" x 9" Back 9 1/2" x 9 1/2" Top 9" x 10" If stays are fitted with nuts or riveted heads none Working pressure by rules 180
Material of stays steel Diameter at smallest part 2.030" Area supported by each stay 90.50" Working pressure by rules 202 End plates in steam space:
Material steel Thickness 1 3/32" Pitch of stays 17 1/2" x 22" How are stays secured bar. Working pressure by rules 185 Material of stays steel
Diameter at smallest part 6.490" Area supported by each stay 36.40" Working pressure by rules 184 Material of Front plates at bottom steel
Thickness 1 3/16" Material of Lower back plate steel Thickness 3/32" Greatest pitch of stays 15" x 9 1/2" Working pressure of plate by rules 180
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 11 1/2"
Pitch across wide water spaces 14 1/4" Working pressures by rules 262 Girders to Chamber tops: Material steel Depth and
thickness of girder at centre 2 @ 7 1/8" x 7 1/8" Length as per rule 2'-6 1/8" Distance apart 10" Number and pitch of stays in each 2 @ 9"
Working pressure by rules 180 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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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:—Two connecting rod top and bottom end bolts and nuts
Two main bearing bolts, one set of coupling bolts, one set of feed, bilge, air and circulating
pump valves, iron and bolts of various sizes, one propeller.

The foregoing is a correct description,
FOR GEORGE CLARK, LIMITED

Manufacturer. W. G. MULL
of the main business premises.

Dates of Survey while building { During progress of work in shops -- 1913 Jan. 14, 30, Feb. 10, Mar. 4, 6, 10, 18, 26, 28, Apr. 1, 4, 11, 17, 23, 24
During erection on board vessel -- May 2, 6, 9, 16, 20, 21, 24, 27, 28, Jun. 5, 18, 19, 20, 24, 27, 28, Jul. 2, 4, 10, 12, 14
Total No. of visits (34.)

Is the approved plan of main boiler forwarded herewith yes
" " " donkey " " " yes

Dates of Examination of principal parts—Cylinders 14-4-13 Slides 23-4-13 Covers 16-5-13 Pistons 10-3-13 Rods 6-5-13
Connecting rods 20-5-13 Crank shaft 28-3-13 Thrust shaft 24-5-13 Tunnel shafts 24-5-13 Screw shaft 27-5-13 Propeller 1-4-13
Stern tube 27-5-13 Steam pipes tested 28-6-13 Engine and boiler seatings 2-6-13 Engines holding down bolts 24-6-13
Completion of pumping arrangements 10-7-13 Boilers fixed 2-7-13 Engines tried under steam 4-7-13
Main boiler safety valves adjusted 4-7-13 Thickness of adjusting washers Port Boilers: both 5/16" Std Boilers: both 3/8"
Material of Crank shaft 9 Steel Identification Mark on Do. 8336 KH. Material of Thrust shaft 9 Steel Identification Mark on Do. 2633 MB.
Material of Tunnel shafts 9 Steel Identification Marks on Do. 4544 HK. Material of Screw shafts 9 Steel Identification Marks on Do. 8466 KH.
Material of Steam Pipes solid drawn copper 40 1/2" x 6 mm. Test pressure 400 lbs per sq. in.

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 record *LMC 7.13

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 7.13.

LM

JWD
18/7/13

Leuridan

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

The amount of Entry Fee .. £ 2 : - :
Special .. £ 31 : 1 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 17-7-13
When received, 21/7/13

Committee's Minute

TUE. JUL. 23. 1913

Assigned

LMC 7.13

MACHINERY CERTIFICATE



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