

REPORT ON MACHINERY.

Nw. No. 55854
S.D. No. 23843
MUN. 14 DEC 1908
SAL. 7 NOV 1908

Port of Sunderland

Received at London Office

No. in Survey held at Sunderland Date, first Survey 19th June 08 Last Survey 3rd Nov 1908

Reg. Book. on the S.S. "The Norman" (Number of Visits 30) Tons Gross 205 Net 86

Master McDonald Built at H. Shields By whom built Messrs. Smith's Dock Co When built 1901

Engines made at Sunderland By whom made Messrs. Mac Coll & Pollock when made 1908

Boilers made at Sunderland By whom made Messrs. Mac Coll & Pollock when made 1908

Registered Horse Power 78 Owners Red Buo Port belonging to Milpa

Nom. Horse Power as per Section 28 78 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Inverted triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 12 1/2, 20, 34" Length of Stroke 24" Revs. per minute 105 Dia. of Screw shaft 7 1/2" 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 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 2' 6 1/4"

Dia. of Tunnel shaft 6 3/4" Dia. of Crank shaft journals 6 1/2" Dia. of Crank pin 6 1/2" Size of Crank webs 10 1/2 x 4 1/2" Dia. of thrust shaft under collars 6 1/2" Dia. of screw 9 1/2" Pitch of Screw 11 1/4" No. of Blades 4 State whether moveable no Total surface 34 1/2"

No. of Feed pumps one Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Bilge pumps one Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 3 1/2 x 6 x 6, 4 1/2 x 3 x 10" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room

In Engine Room 2 of 2" & one ejector 2 1/2" In Holds, &c. 1 of 2" dia

No. of Bilge Injections one sizes 3" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size 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 Yes

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 suction to deck tank How are they protected wood casing

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 22. 10. 08 of Stern Tube 27. 10. 08 Screw shaft and Propeller 27. 10. 08

Is the Screw Shaft Tunnel watertight nil Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record 2(S) Manufacturers of Steel J. Spencer & Sons & W. Beardmore & Co

Total Heating Surface of Boilers 14237 Is Forced Draft fitted no No. and Description of Boilers one S.E. Cyl. Multi

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 15. 9. 08 No. of Certificate 2723

Can each boiler be worked separately Yes Area of fire grate in each boiler 38 1/2 No. and Description of Safety Valves to each boiler 2 spring patent Area of each valve 3. 98 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 10" Mean dia. of boilers 12. 6 Length 10. 6 Material of shell plates steel

Thickness 1 1/2 Range of tensile strength 28/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d & lap long. seams L & d. T.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 7 3/4" Lap of plates or width of butt straps 15 1/4"

Per centages of strength of longitudinal joint rivets 92. 5 Working pressure of shell by rules 182. 9 lbs Size of manhole in shell 16 x 12" plate 85. 4

Size of compensating ring 2 1/4 x 2 1/2 x 1 1/2 No. and Description of Furnaces in each boiler 2 plain Material steel Outside diameter 43"

Length of plain part top 6. 2 1/2 Thickness of plates crown 49/164 Description of longitudinal joint weld No. of strengthening rings Yes bottom 6. 7

Working pressure of furnace by the rules 180. 0 lbs Combustion chamber plates: Material steel Thickness: Sides 1/6 Back 1/6 Top 1/6 Bottom 1/8

Pitch of stays to ditto: Sides 9 x 9 1/2" Back 9 1/2 x 9 1/4" Top 8 1/2 x 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 185. 8 lbs

Material of stays steel Diameter at smallest part 2. 07 Area supported by each stay 7. 875 Working pressure by rules 212 lbs End plates in steam space: Material steel Thickness 1 1/4" Pitch of stays 20 1/2 x 18 1/2" How are stays secured d & w. Working pressure by rules 189. 1 lbs Material of stays steel

Diameter at smallest part 7. 24 Area supported by each stay 38. 3. 875 Working pressure by rules 196 lbs Material of Front plates at bottom steel

Thickness 13/16 Material of Lower back plate steel Thickness 13/16 Greatest pitch of stays 12 1/4 x 9 1/4" Working pressure of plate by rules 193. 6 lbs

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2 x 4 1/2" Material of tube plates steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 13 1/2 x 9"

Pitch across wide water spaces 14 1/2" Working pressures by rules 210 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 1/2 x 1 1/2" Length as per rule 31 3/4" Distance apart 9 1/2" Number and pitch of stays in each 2 - 8 1/2"

Working pressure by rules 182. 3 lbs Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked separately Yes

Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

If not, state whether, and when, one will be sent? Is a Report also sent on the hull of the ship?

Lloyd's Register Foundation

4 B
23873

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 _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 2 Top end, 2 Bottom end, 2 Main bearing & 1 set of Coupling bolts, 1 set of feed & bilge pump Valves, 1 set Air & Circulating pump Valves, 1 Main feed check & donkey feed check Valves, 1 Propeller, Bolts & nuts assorted & iron of size _____

MAC COLL & POLLOCK LTD

The foregoing is a correct description,

Manufacturer.

Angus MacColl
Managing Director

1908:-
Dates of Survey while building } During progress of work in shops - June 19, 22, 29, July 3, 5, 14, 17, 21, 23, Aug: 5, 11, 14, 18, 21, 25, 28, Sept 1, 8, 15, 23
} During erection on board vessel - Oct, 1, 9, 12, 15, 20, 21, 24, 29, Nov 2, 3, Dec 1908 Oct 22
Total No. of visits 30.

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

Dates of Examination of principal parts—Cylinders 1.10.08 Slides 1.10.08 Covers 1.10.08 Pistons 1.10.08 Rods 1.10.08
Connecting rods 1.10.08 Crank shaft 18.8.08 Thrust shaft 23.9.08 Tunnel shafts ✓ Screw shaft 1.10.08 Propeller 9.10.08
Stern tube 20.10.08 Steam pipes tested 27.10.08 Engine and boiler seatings 22.10.08 Engines holding down bolts 29.10.08
Completion of pumping arrangements 3.11.08 Boilers fixed 29.10.08 Engines tried under steam 3.11.08
Main boiler safety valves adjusted 3.11.08 Thickness of adjusting washers P.V. 3/8"; S.V. 3/8".
Material of Crank shaft Steel Identification Mark on Do. 2546 MR Material of Thrust shaft Steel Identification Mark on Do. 2739 P.A.
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 2720 P.A.
Material of Steam Pipes Copper Test pressure 400 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam ahead & astern and worked satisfactorily.*)

We beg to recommend that this vessel is eligible in our opinion to have the record of L.M.C. 11.08 in the Register Book

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 11.08.

J.W.D.
14/12/08
Conrad's Challengers.
K.V. Coombes
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee £ 1 : 0 : 0 When applied for, 6/11 1908.
Special .. £ 11 : 14 : 0
Donkey Boiler Fee .. £ : : :
Travelling Expenses (if any) £ : : : 13/Dec 1908

Committee's Minute FRI 18 DEC 1908

Assigned + L.M.C. 11.08



Certificate (if required) to be sent to the Secretary of the Committee's Minute.

Sunderland