

Rpt. 4.

## REPORT ON MACHINERY

NEWCASTLE-ON-TYNE

No. 67678

No. 15096

FRI. JUN. 25. 1915

Received at London Office

Date of writing Report 25<sup>th</sup> Feb 1915 When handed in at Local Office 29/3/15 Port of West Hartlepool  
No. in Survey held at West Hartlepool Date, First Survey 19<sup>th</sup> March 14 Last Survey 22<sup>nd</sup> March 1915  
Reg. Book. on the steamer SOUTHWESTERN MILLER (Number of Plates 4) Gross 6514 Tons Net 2161

Master Built at Newcastle By whom built Northumberland Sh. Co. Ltd. (222 1/2) When built 1915

Engines made at Hartlepool By whom made Richardson Westgarth & Co. Ltd. when made 1915

Boilers made at Middlesbrough By whom made Richardsons Westgarth & Co. Ltd. when made 1915

Registered Horse Power Owners Norfolk & Norwich Ship Co. Ltd. Port belonging to W. Hartlepool

Nom. Horse Power as per Section 28 682 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion (Inverted) No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 29.49.80 Length of Stroke 54 Revs. per minute 65 Dia. of Screw shaft as per rule 15.99 as fitted 16.28 Material of screw shaft Lockfast

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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5-6 1/2

Dia. of Tunnel shaft as per rule 14.66 as fitted 14.7 Dia. of Crank shaft journals as per rule 15.39 as fitted 15.2 Dia. of Crank pin 16 1/4

Size of Crank webs 25 x 10 1/2 Dia. of thrust shaft under collars 16 1/8 Dia. of screw 18.9 Pitch of Screw 19-0 No. of Blades four State whether moveable No Total surface 114 1/2

No. of Feed pumps No Diameter of ditto 9 Stroke 21 Can one be overhauled while the other is at work Yes

No. of Bilge pumps No Diameter of ditto 4 Stroke 30 Can one be overhauled while the other is at work Yes

No. of Donkey Engines No Sizes of Pumps 11 x 10 1/2 6 x 8 1/2 5 x 4 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room four 3/4 dia one 3/4 dia Super Direct In Holds, &c. No in each Hold 3/4 dia two 3/4 dia in

deep tank specially built when required One 3/4 dia tunnel system No 3/4 dia in Dry Tank under bilges

No. of Bilge Injections one size 9/2 dia Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room of size Yes 3/4

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 stowhold 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 9/12/14 of Stern Tube 3/2/15 Screw shaft and Propeller 8/2/15

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

BOILERS, &c.—(Letter for record) Manufacturers of Steel Boilers made at Middlesbrough—report attached

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Superheater or Steam chest; how connected to boiler 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

Lloyd's Register  
Foundation



IS A DONKEY BOILER FITTED? No Boiler If so, is a report now forwarded? \_\_\_\_\_  
SPARE GEAR. State the articles supplied:— Two Tapered, Two Bottom End & Two Main Bearing Bolts & nuts  
One set of coupling bolts, one propeller shaft, one set of helge pump valves, one set of independent  
feed pump valves & piston bolts, one set of H.P. piston rings & springs to set air pump piston, one  
Centrifugal pump base & spindle, 50 condenser tubes one set of check valves (Boiler) & safety valves &  
and control bolts into & from.

The foregoing is a correct description,

FOR RICHARDSONS, WESTGARTH & CO. LIMITED

*L.D. Murgate*

ASSISTANT GENERAL MANAGER

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1914. Mar 19. Apr 1. July 20. 28. Aug 11. 19. 26. 31. Sep 1. 2. 3. 4. 7. 11. 15. 23. 24. Oct 2. 5. 6. 7. 8. 9. 13. 15. 17. 20. 22. 26. 28. 29. Nov 2. 4. 9. 10. 12. 13. 16. 17. 18. 19. 25. 26. 27. Dec 1. 2. 3. 4. 7. 8. 9. 10. 11. 14. 15. 21. 22. 23. 24. 29. 30. 1915  
During erection on board vessel - - - Jan 4. 5. 6. 7. 11. 12. 14. 18. 29. Feb 2. 3. 4. 5. 8. 16. 22. 24. Mar 1. 8. 9. 10. 11. 18. 23.  
Total No. of visits At 10<sup>th</sup> Hpl. 85. + 24/6 Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 3/12/14 Slides 1/12/14 Covers 1/12/14 Pistons 1/12/14 Rods 2/12/14  
Connecting rods 2/12/14 Crank shaft 1/12/14 Thrust shaft 1/12/14 Tunnel shafts 16/11/14 Screw shaft 2/12/14 Propeller 15/12/14  
Stern tube 1/12/14 Steam pipes tested 8/3/15 Engine and boiler seatings 29/1/15 Engines holding down bolts 16/2/15  
Completion of pumping arrangements 23/3/15 Boilers fixed 18/3/15 Engines tried under steam 11/3/15  
Main boiler safety valves adjusted 11/3/15 Thickness of adjusting washers 16/2/15 16/2/15 16/2/15 16/2/15 16/2/15  
Material of Crank shaft steel Identification Mark on Do. 5599 Material of Thrust shaft steel Identification Mark on Do. 5599  
Material of Tunnel shafts iron Identification Marks on Do. 5599 Material of Screw shafts iron Identification Marks on Do. 5599  
Material of Steam Pipes wrought iron Test pressure 540 lbs.

Is an installation fitted for burning oil fuel no Is the flash point of the oil to be used over 150°F. \_\_\_\_\_  
Have the requirements of Section 49 of the Rules been complied with \_\_\_\_\_  
Is this machinery duplicate of a previous case yes If so, state name of vessel Northern Miller

General Remarks (State quality of workmanship, opinions as to class, &c.)  
Feed Water Body tested by water pressure to 50 lbs & ends to 400 lbs marked (Lloyd's 578)  
Exhaust Body tested to 50 lbs & ends to 400 lbs marked (Lloyd's 582)

The Machinery of this Vessel has been constructed under special survey, the material & workmanship sound & good. The Boilers have been well secured in position & the Steam pipes have been tested by Hydraulic pressure in accordance with the Rules and the whole of the Machinery worked satisfactorily at the survey & the Safety Valves have been adjusted under steam to their working pressure & Easing Gear fitted.

This Vessel is Eligible in our Opinion to have the Notation of \* LMC 3/14 in the Register Book  
6, 15 It is submitted that this vessel is eligible for THE RECORD + LMC 6.15. FD

The amount of Entry Fee ... £ 3 : 0 :  
23 Special ... £ 36 : 2 :  
Donkey Boiler Fee ... £ 18 : 0 :  
Travelling Expenses (if any) £ \_\_\_\_\_  
When applied for, 30/3/15  
When received, 29.4.15  
*L.D. Murgate*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE JUN. 29. 1915  
Assigned + Lmb 6.15

MACHINERY CERTIFICATE  
25.6.15