

# REPORT ON MACHINERY.

Date of writing Report 19 When handed in at Local Office 28. NOV. 1914 Received at London Office 19 Port of Sunderland MON. NOV. 30, 1914  
 No. in Survey held at Sunderland Date, First Survey 7<sup>th</sup> May, 1914 Last Survey 20<sup>th</sup> Nov. 1914  
 Reg. Book. on the new steel S/S "MEUSE". (Number of Visits 46)

Master L Raymond Built at Sunderland By whom built Sunderland S.B. L<sup>d</sup> (S.N. 285) Tons } Gross 14075  
 } Net 2558  
 Engines made at Sunderland By whom made George Clark L<sup>d</sup> (N<sup>o</sup> 1012) when made 1914  
 Boilers made at Sunderland By whom made George Clark L<sup>d</sup> (N<sup>o</sup> 1012) when made 1914  
 Registered Horse Power Owners Lia de Navigation de C. B. B. Port belonging to La Rochelle  
 Nom. Horse Power as per Section 28 371 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 25", 41", 69" Length of Stroke 48" Revs. per minute 65 Dia. of Screw shaft as per rule 14.26" Material of screw shaft as fitted 14.5/8" 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'-10 1/2"  
 Dia. of Tunnel shaft as per rule 12.64" Dia. of Crank shaft journals as per rule 13.28" Dia. of Crank pin 1-15/8" Size of Crank webs 18-8 3/8" Dia. of thrust shaft under collars 1-17/8" Dia. of screw 17-6" Pitch of Screw 17-0" No. of Blades 4 State whether moveable no Total surface 95 1/2"  
 No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke 26" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 26" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 3 Sizes of Pumps 10 1/2" x 10" 20 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4 @ 3 1/2" In Holds, &c. N<sup>o</sup> 1 hold - 2 @ 3 1/2" N<sup>o</sup> 2 hold - 2 @ 3 1/2"  
 N<sup>o</sup> 3 hold - 2 @ 3 1/2" Tunnell well - 1 @ 3 1/2"  
 No. of Bilge Injections 1 sizes 6 1/2" Connected to condenser, or to circulating pump 6 P. Is a separate Donkey Suction fitted in Engine room & size yes 1 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 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 Forward hold suction How are they protected under 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 15-10-14 of Stern Tube 22-10-14 Screw shaft and Propeller 26-10-14  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

**BOILERS, &c.**—(Letter for record 5) Manufacturers of Steel Aachen Hütten Verein Aachen. Thyssen & Co. of Mulheim & David Bolander & Sons L<sup>d</sup>.  
 Total Heating Surface of Boilers 5898 1/2 Is Forced Draft fitted no No. and Description of Boilers Three single ended marine  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 5-10-14 No. of Certificate 3250  
 Can each boiler be worked separately yes Area of fire grate in each boiler 58 1/2" No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 8.290" Pressure to which they are adjusted 185 Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 19" Mean dia. of boilers 14'-0" Length 10'-9" Material of shell plates steel  
 Thickness 15/16" Range of tensile strength 29 1/2-33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 10 R.  
 long. seams WBS, TR Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 17"  
 Per centages of strength of longitudinal joint rivets 91 plate 85 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"  
 Size of compensating ring flanged in 3/2" No. and Description of Furnaces in each boiler 3 maison bou Material steel Outside diameter 3'-7"  
 Length of plain part top 32" crown 32" Description of longitudinal joint welded No. of strengthening rings 1  
 bottom 32" Working pressure of furnace by the rules 183 Combustion chamber plates: Material steel Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 7/8"  
 Pitch of stays to ditto: Sides 9" x 9 1/2" Back 9 3/8" x 10" Top 8 3/4" x 11" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181  
 Material of stays steel Diameter at smallest part 2.030" Area supported by each stay 93.70" Working pressure by rules 194 End plates in steam space:  
 Material steel Thickness 15/16" Pitch of stays 23 1/8" x 17 1/2" How are stays secured W.N. Working pressure by rules 182 Material of stays steel  
 Diameter at smallest part 5/16" Area supported by each stay 2930" Working pressure by rules 192 Material of Front plates at bottom steel  
 Thickness 13/16" Material of Lower back plate steel Thickness 15/16" Greatest pitch of stays 15" x 9 3/4" Working pressure of plate by rules 189  
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" x 4 1/2" Material of tube plates steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 11 1/4"  
 Pitch across wide water spaces 4 1/2" x 12 1/2" Working pressures by rules 262 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 20 9/8" x 7/8" Length as per rule 2'-6" Distance apart 11" Number and pitch of stays in each 2 @ 8 3/4"  
 Working pressure by rules 184 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

**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 eccentric strap, one pair of top and bottom end bearings, one piston rod, one air and circulating pump rod, two valve spindles, one tail shaft and one propeller.

The foregoing is a correct description,

**FOR GEORGE CLARK, LIMITED**

Manufacturer.

W. S. MULL

of the main Engineer & Builders.

Dates of Survey while building	During progress of work in shops ---	1914 May 7, 18, 19, 26, 27	Jun 8, 15, 16, 19, 23, 26	Jul 3, 9, 14	Aug 6, 13, 18, 25, 26, 28	Sep 1, 2
	During erection on board vessel ---	7, 14, 18, 22, 23, 25, 29, 30	Oct 2, 5, 15, 16, 17, 19, 20, 21, 22, 26, 27, 30	Nov 4, 5, 18, 20		
	Total No. of visits	(46)				

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

**Dates of Examination of principal parts—** Cylinders 2-8-14 Slides 23-9-14 Covers 18-5-14 Pistons 23-6-14 Rods 25-9-14

Connecting rods 18-9-14 Crank shaft 6-8-14 Thrust shaft 7-9-14 Tunnel shafts 20-10-14 Screw shaft 20-10-14 Propeller 5-10-14

Stern tube 30-9-14 Steam pipes tested 30-10-14 Engine and boiler seatings 22-9-14 Engines holding down bolts 4-11-14

Completion of pumping arrangements 20-11-14 Boilers fixed 4-11-14 Engines tried under steam 5-11-14

Main boiler safety valves adjusted 5-11-14 Thickness of adjusting washers Piston - P 3/8" 5 7/16" bushells - P 5/16" 5 3/8" shells - P 7/16" 5 3/8"

Material of Crank shaft 9 steel Identification Mark on Do. 4278 PA Material of Thrust shaft 9 steel Identification Mark on Do. RW 12

Material of Tunnel shafts 9 steel Identification Marks on Do. 26, 18, 15, 24 & Material of Screw shafts 9 steel Identification Marks on Do. 10 & 23 RW

Material of Steam Pipes 1 1/2" iron lap welded 5 @ 4" bore x 5/16" thick Test pressure 540 lbs per sq"

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good  
The machinery has been constructed under special survey and is eligible in my opinion for classification and the record + LMC 11.14

It is submitted that this vessel is eligible for THE RECORD. + LMC 11.14.

J. W. S.  
30/11/14  
J. W. S.

The amount of Entry Fee	£ 3	When applied for, 28. NOV 1914
Special	£ 38	When received, 11/12/14
Donkey Boiler Fee	£	
Travelling Expenses (if any)	£	

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

Committee's Minute FRI. DEC. - 4. 1914  
Assigned + LMC 11.14



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