

# REPORT ON MACHINERY.

No. 10461

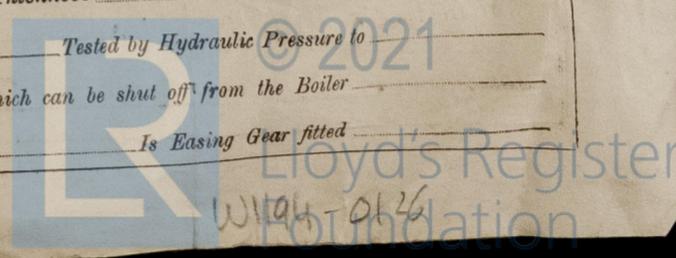
4.

Received at London Office

Writing Report 20.8.1919 When handed in at Local Office 21.8.1919 Port of Middlesbrough  
Survey held at Stockton-on-Tees Date, First Survey 1st May Last Survey 12th Aug 1919  
Book on the Steel Screw Steamer "INNERTON" (S.S. No 530) Tons { Gross  
Net  
When built 1919  
Built at Stockton By whom built Messrs Roper & Sons  
Made at Stockton By whom made Messrs Blair & Co Lim. (No 1902) when made 1919  
Made at Stockton By whom made Messrs Blair & Co Lim. when made  
Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_  
Horse Power as per Section 28 452 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3  
No. of Cylinders 26-44-73 Length of Stroke 48 Revs. per minute 77 Dia. of Screw shaft 14.7 Material of screw shaft By steel  
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  
Propeller boss yes If the liner is in more than one length are the joints burned in one 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 tight fit If two  
are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush 5-1/4  
Dia. of Tunnel shaft 13.33 Dia. of Crank shaft journals 14.0 Dia. of Crank pin 14.5 Size of Crank webs 28x9 Dia. of thrust shaft under  
No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes  
No. of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes  
No. of Donkey Engines 3 Sizes of Pumps 10 1/2 x 14 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps  
Engine Room 4 @ 3 1/2 In Holds, &c. 2 @ 3 1/2 in each hold except aftermost  
No. of Bilge Injections 1 sizes 13 Connected to condensate circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 3 1/2  
Are 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  
Are all connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_  
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 \_\_\_\_\_  
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  
Are all pipes carried through the bunkers suctions to forward holds How are they protected Wood ceiling  
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  
Is the Screw Shaft Tunnel watertight see hull rpt Is it fitted with a watertight door yes worked from top platform

MANIFOLDERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs John Spencer & Son Lim.  
Total Heating Surface of Boilers 7668 Is Forced Draft fitted no No. and Description of Boilers 3 single ended  
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 20.6.19 No. of Certificate 6004  
Can each boiler be worked separately yes Area of fire grate in each boiler 63.3 No. and Description of Safety Valves to  
each boiler 2 direct spring Area of each valve 9.62 Pressure to which they are adjusted 185 Are they fitted with easing gear yes  
Smallest distance between boilers 7-0 Mean dia. of boilers 15-6 Length 11-6 Material of shell plates steel  
Thickness 1 1/4 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2-R-lap  
Pitch of rivets 9 1/8 Lap of plates or width of butt straps 19 1/2 x 1 1/2 in  
No. of compensating ring flanged No. and Description of Furnaces in each boiler 3 Dighton Material steel Outside diameter 50 3/16  
Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint Weld No. of strengthening rings \_\_\_\_\_  
Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 23/32 Back 1/8 Top 29/32 Bottom 23/32  
No. of stays to ditto: Sides 10 5/8 x 9 1/4 Back 10 1/4 x 8 1/4 Top 10 3/8 x 9 1/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180  
Material of stays Steel Area at smallest part 2.31 Area supported by each stay 98.5 Working pressure by rules 211 End plates in steam space:  
Material Steel Thickness 1 1/2 Pitch of stays 21 3/4 How are stays secured nuts & washers Working pressure by rules 191 Material of stays steel  
Area at smallest part 8.29 Area supported by each stay 467 Working pressure by rules 185 Material of Front plates at bottom steel  
Thickness 31/32 Material of Lower back plate steel Thickness 27/32 Greatest pitch of stays 13 5/8 x 8 3/4 Working pressure of plate by rules 187  
Pitch of tubes 4 x 3 7/8 Material of tube plates steel Thickness: Front 31/32 Back 3/4 Mean pitch of stays 9 7/8  
Pitch across wide water spaces 13 5/8 Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and  
Thickness of girder at centre 10 x 1 3/4 Length as per rule 35 7/8 Distance apart 10 5/8 Number and pitch of stays in each 3 @ 9 1/4  
Working pressure by rules 190 Steam dome: description of joint to shell none % of strength of joint \_\_\_\_\_  
Diam. of rivet holes \_\_\_\_\_  
Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ How stayed \_\_\_\_\_  
Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Crown plates \_\_\_\_\_ Thickness \_\_\_\_\_  
SUPERHEATER. Type \_\_\_\_\_ Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to \_\_\_\_\_  
Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler \_\_\_\_\_  
Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two each of connecting and top-end, bottom-end and main bearing bolts and nuts: 3 crank shaft + 3 tunnel shaft coupling bolts and nuts: one set each of feed and bilge pump valves: 3 each of main & donkey check valves; one set each of H.P. & M.P. Ramsbottom piston rings; assorted bolts and nuts; Iron of various sizes one cast iron propeller and minor gear as per specification*

The foregoing is a correct description,

FOR BLAIR & CO. LIMITED.

*Geo Nettleship*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } *May 1. 2. 5. 7. 9. 12. 15. 19. 21. 23. 26. 28. Jun 2. 4. 6. 11. 16. 18. 20. July 1. 10. 14. 17. 24. 31. Aug. 5. 12.*  
{ During erection on board vessel -- }  
Total No. of visits *28.* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *12. 8. 19* Slides *12. 8. 19* Covers *12. 8. 19* Pistons *12. 8. 19* Rods *BC*  
Connecting rods *BC* Crank shaft *BC* Thrust shaft *BC* Tunnel shaft *BC* Screw shaft *4. 6. 19* Propeller *4. 6. 19*  
Stern tube *2. 6. 19* Steam pipes tested *4. 6. 19* Engine and boiler seatings *20. 6. 19* Engines holding down bolts *31. 7. 19*  
Completion of pumping arrangements *8. 8. 19* Boilers fixed *10. 7. 19* Engines tried under steam *9. 8. 19*  
Completion of fitting sea connections *20. 6. 19* Stern tube *20. 6. 19* Screw shaft and propeller *1. 7. 19*  
Main boiler safety valves adjusted *8. 8. 19* Thickness of adjusting washers *P-5/8 C-3/8 S-1/2 B-5/8*  
Material of Crank shaft *By Steel* Identification Mark on Do. *BC 3045* Material of Thrust shaft *By Steel* Identification Mark on Do. *BC-3045*  
Material of Tunnel shafts *By Steel* Identification Marks on Do. *BC 3045* Material of Screw shafts *By Steel* Identification Marks on Do. *7194*  
Material of Steam Pipes *Lap welded steel* Test pressure *540*

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 *Standard A except H.P. cyl diam*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been completed under special survey. The materials and workmanship are sound and good, and on completion the engines, boilers and auxiliaries were examined under steam and all found satisfactory.*

*The machinery was partly built under the survey of the Surveyors to the British Corporation and the certificate for the parts examined by that Society is attached hereto. See also Secretary's letters E. 10<sup>th</sup> & 28<sup>th</sup> April, 1919.*

*The machinery is now in a good and safe working condition and renders the vessel eligible in my opinion to have the notation of  $\frac{R}{L} L.M.C-8-19$  in the Register Book.*

*It is submitted that this vessel is eligible for THE RECORD. + LMC 8 19*

Note:— *Vessel fitted with wireless but not electric light*  
*See Secretary's letter E. 12. 6. 19 Re fee*

The amount of Entry Fee	£	:	:	When applied for,
Special	£	35	0-0	21. 8. 1919
Donkey Boiler Fee	£	✓	:	When received,
Travelling Expenses (if any)	£	:	:	28. 8. 1919

*Wm Morrison*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. AUG. 29. 1919*  
Assigned *Home 8. 19*

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

