

VERTICAL DONKEY BOILER— Manufacturers of Steel *See Middlesbrough Report No 8480*

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 each of iron rod top end and bottom end bolts & nuts; 2 main bearing bolts & nuts; one set of coupling bolts and nuts; one set of feed and bilge pump valves; assorted bolts and nuts and iron of various sizes*

The foregoing is a correct description,
For BLAIR
Geo Nettleship Manufacturer.

Dates of Survey while building: During progress of work in shops -- *SECRETARY 1914. Mar. 17. 19. 20. 23. 26. 30. Apr. 1. 2. 6. 8. 9. 15. 17. 20. 21. 23. 27. 28. 30. May. 1. 4. 7. 11. 13. 14. 16. 19.*
 During erection on board vessel -- *21. 22. 25. 28. Jun. 3. 5. 8. 9. 11. 15. 18. 23. 26. 29. Jul. 7. 13.*
 Total No. of visits *43.*

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

Dates of Examination of principal parts—Cylinders *17. 4. 14* Slides *17. 4. 14* Covers *17. 4. 14* Pistons *23. 4. 14* Rods *23. 4. 14*
 Connecting rods *27. 4. 14* Crank shaft *27. 4. 14* Thrust shaft *6. 4. 14* Tunnel shafts *17. 3. 14* Screw shaft *21. 5. 14* Propeller *21. 5. 14*
 Stern tube *19. 5. 14* Steam pipes tested *18. 6. 14* Engine and boiler seatings *22. 5. 14* Engines holding down bolts *18. 6. 14*
 Completion of pumping arrangements *29. 6. 14* Boilers fixed *26. 6. 14* Engines tried under steam *26. 6. 14*
 Main boiler safety valves adjusted *26. 6. 14* Thickness of adjusting washers *Port Boiler 5 - 7/32; 6. 13. 5 - 1/4; BB - 5 - 7/32*
 Material of Crank shaft *By Steel* Identification Mark on Do. *6890* Material of Thrust shaft *By Steel* Identification Mark on Do. *359-N*
 Material of Tunnel shafts *By Steel* Identification Marks on Do. *359-N* Material of Screw shafts *iron* Identification Marks on Do. *6890*
 Material of Steam Pipes *Solid drawn Copper (4 1/2 x 10.5 L.S.G)* Test pressure *400 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good. The boilers and main steam pipes were tested by hydraulic pressure and the engines and boilers examined under steam and all found satisfactory.

The machinery of this vessel is now in a good and safe working condition and eligible in my opinion to have the notation of LMC-7.14 in the Register Book

It is submitted that this vessel is eligible for
THE RECORD + LMC 7. 14.

W.D. 24/7/14
W.D. 24/7/14

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

The amount of Entry Fee .. £ *3 - 0 - 0* When applied for.
 Special .. £ *39 - 11 - 0* *20. 7. 19. 14*
 Donkey Boiler Fee .. £ *✓* : :
 Travelling Expenses (if any) £ *✓* : : *22. 7. 14*

Committee's Minute *TUE. JUL. 28. 1914*
 Assigned *+ L.M.C. 7. 14*

MACHINERY CERTIFICATE
 W.D. 1111



Certificate (if registered) to be sent to Middlesbrough - on. Sec.

The Surveyors are requested to write on or below the space for Committee's Minute.