

REPORT ON MACHINERY.

No. 13350

Port of West Hartlepool Received at London Office ERI, 27 SEP 1907

No. in Survey held at West Hartlepool Date, first Survey 13th March, 1904 Last Survey 19th Sept, 1907
(Number of Visits 91)

Reg. Book. 33 on the Steel Steamer "Marylands" Gross 3839.63 Tons
Net 2400.84

Master J. P. Thomas Built at West Hartlepool By whom built W Gray & Co Ltd When built 1907

Engines made at West Hartlepool By whom made Central Marine & Wk when made 1907

Boilers made at West Hartlepool By whom made Central Marine & Wk when made 1907

Registered Horse Power _____ Owners Wilson Shipping Co. Ltd. (Joseph J. Wilson & Co) Port belonging to West Hartlepool

Com. Horse Power as per Section 28 316 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 25 1/2 · 40 1/2 · 67 Length of Stroke 45 Revs. per minute 65 Dia. of Screw shaft 14.22 Material of Steel
as per rule 14.22 as fitted 14 1/2 screw shaft

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 Yes

Is 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 Yes

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two Yes

shafts are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 58"

Dia. of Tunnel shaft 12.49 as per rule 13.11 Dia. of Crank shaft journals 13.11 as per rule 13.11 Dia. of Crank pin 13 1/4 Size of Crank webs 18 1/2 · 7 1/2 Dia. of thrust shaft under 13 1/2 as fitted 13 1/2

No. of Blades 4 State whether moveable No Total surface 93 sq ft

No. of Feed pumps Two Diameter of ditto 3 1/2 Stroke 2P Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 Stroke 2P Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps 4 x 6 · 12 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps Two

Engine Room Three 3 1/2 In Holds, &c. One 3 1/2 · Tunnel 3 1/2

No. of Bilge Injections Two sizes 6 1/2 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 Yes

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

How are they protected Yes

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 20/2/07 of Stern Tube 23/8/07 Screw shaft and Propeller 28/8/07

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

MATERIALS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 4705 sq ft Is Forced Draft fitted No No. and Description of Boilers Two single ended

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 12/7/17 No. of Certificate 3115

Can each boiler be worked separately Yes Area of fire grate in each boiler 58.5 sq ft No. and Description of Safety Valves to Two

Each boiler Two Spring Area of each valve 8.29 sq ft Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 17" Mean dia. of boilers 16.0" Length 10.6' Material of shell plates Steel

Thickness 1 1/32 Range of tensile strength 27,200 Are the shell plates welded or flanged both Descrip. of riveting: cir. seams Yes

g. seams all chip Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 9/8" Lap of plates or width of butt straps 20 1/2"

Percentages of strength of longitudinal joint rivets 86.07 Working pressure of shell by rules 183 lb Size of manhole in END 16 · 12

Plate 85.27 No. and Description of Furnaces in each boiler Three Crown Material Steel Outside diameter 45 7/8"

Length of plain part top bottom Thickness of plates 19/32 Description of longitudinal joint welded No. of strengthening rings littered

Working pressure of furnace by the rules 189 lb Combustion chamber plates: Material Steel Thickness: Sides 10/16 Back 10/16 Top 10/16 Bottom 14/16

Each of stays to ditto: Sides 8 3/4 · 8 1/2 Back 9 1/4 · 8 Top 8 1/4 · 8 1/2 If stays are fitted with nuts or riveted heads both Working pressure by rules 180 lb

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 9 1/4 · 8 Working pressure by rules 193 lb End plates in steam space: 181 lb

Material Steel Thickness 1 1/32 Pitch of stays 22 1/4 · 19 How are stays secured all nut Working pressure by rules 188 lb Material of stays Steel

Diameter at smallest part 3 5/32 Area supported by each stay 22 1/4 · 19 Working pressure by rules 190 lb Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 15/16 Greatest pitch of stays 16 Working pressure of plate by rules 180 lb

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates Steel Thickness: Front 1" Back 14/16 Mean pitch of stays 9"

Each across wide water spaces 14 1/4" Working pressures by rules 189 lb Girders to Chamber tops: Material Steel Depth and Two 8 1/4"

Thickness of girder at centre 8 1/2 · 1 1/4" Length as per rule 2P 5/8 Distance apart 8 1/2" Number and pitch of stays in each Two 8 1/4"

Working pressure by rules 184 lb Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Yes Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet _____

Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____

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 _____

Checked No 750



W 65-0064

VERTICAL DONKEY BOILER— Manufacturers of Steel *As per Report Attached hereto*

No. *one* Description *Single Ended two furnaces*
 Made at *Woolwich* By whom made *Central Marine & Works* When made *1907* Where fixed *Woolwich*
 Working pressure *100 lb* tested by hydraulic pressure to *200 lb* Date of test *12/7/07* No. of Certificate *3116* Fire grate area *26.4 sq ft* Description of Safety Valves *Spring* No. of Safety Valves *Two* Area of each *7.07* Pressure to which they are adjusted *103 lb* Date of adjustment *17/9/07*
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* 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:— *Two top end bolts. Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set feed pump valves. One set bridge pump valves. One set piston springs (H.P.) One Sulzer pump and propeller. Bolts nuts.*

The foregoing is a correct description,
 FOR THE CENTRAL MARINE ENGINE WORKS, Manufacturer.

John B. Williams
 Dates of Survey while building
 During progress of work in shops— *1907. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. May 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. June 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. July 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Aug. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Sept. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Oct. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Nov. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Dec. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31.*
 During erection on board vessel— *July 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Aug. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Sept. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Oct. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Nov. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Dec. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31.*
 Total No. of visits *91* Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders *25/7/07* Slides *25/7/07* Covers *25/7/07* Pistons *25/7/07* Rods *3/7/07*
 Connecting rods *17/7/07* Crank shaft *19/7/07* Thrust shaft *29/7/07* Tunnel shafts *27/8/07* Screw shaft *2/7/07* Propeller *5/6/07*
 Stern tube *19/7/07* Steam pipes tested *22/7/07 28/8/07* Engine and boiler seatings *23/8/07* Engines holding down bolts *27/8/07*
 Completion of pumping arrangements *3/9/07* Boilers fixed *3/9/07* Engines tried under steam *3/9/07*
 Main boiler safety valves adjusted *3/9/07* Thickness of adjusting washers *Pat. Boiler 5 9/16" Slip Boiler 5 15/16"*
 Material of Crank shaft *Steel* Identification Mark on Do. *4548* Material of Thrust shaft *Steel* Identification Mark on Do. *4548*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *4548* Material of Screw shafts *Steel* Identification Marks on Do. *4548*
 Material of Steam Pipes *Copper* Test pressure *450 lb*

General Remarks (State quality of workmanship, opinions as to class, &c. *Workmanship good.*
The Machinery and Engines of this steamer have been constructed under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the certification + L.M.C. 9.07 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9.07.
J.B.W.
27/9/07
R.L.
27.9.07

The amount of Entry Fee.. £ 3 : 0 : 0 When applied for.
 Special £ 35 : 16 : 0 26.9.1907
 Donkey Boiler Fee £ : : : When received, 30/9/07
 Travelling Expenses (if any) £ : : : 28/9/07
 Committee's Minute
 Assigned

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
 MACHINERY CERTIFICATE WRITTEN.
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West Hartlepool

Certificate (if required) to be sent to the Surveyors and forwarded not to write on or below the space for Committee's Minutes.

TUES. 1 OCT 1907

+ L.M.C. 9.07