

# REPORT ON MACHINERY.

No. 50819

Port of Newcastle-on-Tyne

Received at London Office FRI. 11 MAY 1906

No. in Survey held at South Shields  
Reg. Book.

Date, first Survey Dec 1st

Last Survey 27th May 1906

(Number of Visits 21)

on the S. S. TREMAYNE

Gross Tons 3881

Net Tons 2507

When built 1906

Master J. Symons Built at South Shields By whom built J. Readhead & Sons

Engines made at South Shields By whom made J. Readhead & Sons

Boilers made at du By whom made du when made 1906

Registered Horse Power \_\_\_\_\_ Owners E. Hain & Sons Port belonging to St. Joes

Nom. Horse Power as per Section 28 330.46 Is Refrigerating Machinery fitted no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 25 x 42 x 68 Length of Stroke 45 Revs. per minute 60 Dia. of Screw shaft 13.8 Material of screw shaft Iron  
 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 4-8"  
 Dia. of Tunnel shaft 12.46 as per rule 12.5 Dia. of Crank shaft journals 13.08 as per rule 13.14 Dia. of Crank pin 13 1/4 Size of Crank webs 17/4 x 9 Dia. of thrust shaft under collars 13 1/4 Dia. of screw 16.6 Pitch of screw 16.6 - 19 No. of blades 4 State whether moveable no Total surface 81 1/2  
 No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 2 1/4 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 4 3/8 Stroke 2 1/4 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 Sizes of Pumps 1 1/2 x 9 x 13 No. and size of Suctions connected to both Bilge and Donkey pumps 6 x 4 x 6 duplex  
 In Engine Room Three of 3 1/2 Independent suction 3 1/2 In Holds, &c. Fore Hold No. 1 Two of 3 1/2, No. 2 Two of 3 1/2  
After Hold No. 3 Two of 3 1/2 No. 4 Two of 3 1/2 Tunnel well 2 1/2  
 No. of bilge injections 1 sizes 5 1/2 Connected to condenser or to circulating pump Pumps Is a separate donkey suction fitted in Engine room & size yes 5 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 ✓  
 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 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  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock New Vessel Is the screw shaft tunnel watertight yes  
 Is it fitted with a watertight door yes worked from top platform

**BOILERS, &c.**—(Letter for record 2) Total Heating Surface of Boilers 5026 sq ft Is forced draft fitted no  
 No. and Description of Boilers Two Single ended Working Pressure 180 Tested by hydraulic pressure to 360 lbs  
 Date of test 31-3-06 Can each boiler be worked separately yes Area of fire grate in each boiler 60.5 No. and Description of safety valves to each boiler Two Spring Area of each valve 7.07 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or overheads 22" Mean dia. of boilers 16.6 Length 10.4 Material of shell plates Steel  
 Thickness 1 3/8 Range of tensile strength 27/32 Are they welded or flanged no Descrip. of riveting: cir. seams Lap J. A long. seams D.B.S  
 Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9 3/8 Top of plates or width of butt straps 1-9 1/2"  
 Per centages of strength of longitudinal joint 85.5 Working pressure of shell by rules 182 Size of manhole in shell 12 x 16  
 Size of compensating ring 7 x 1 3/8 No. and Description of Furnaces in each boiler Three Morrison Material Steel Outside diameter 4 ft  
 Length of plain part top Thickness of plates 19/32 Description of longitudinal joint Welded No. of strengthening rings ✓  
 Working pressure of furnace by the rules 196 Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 7/8  
 Pitch of stays to ditto: Sides 8 1/2 x 8 1/2 Back 8 3/4 x 8 3/4 Top 9 x 8 If stays are fitted with nuts on riveted heads nuts Working pressure by rules 182  
 Material of stays Iron Diameter at smallest part 2.81 Area supported by each stay 11 1/2 x 8 1/2 Working pressure by rules 203 End plates in steam space: outside steel  
 Material steel Thickness 1 1/4 Pitch of stays 20 x 20 How are stays secured D.N.W Working pressure by rules 180 Material of stays steel  
 Diameter at smallest part 7.24 Area supported by each stay 20 x 20 Working pressure by rules 181 Material of Front plates at bottom steel  
 Thickness 3/4 Material of Lower back plate steel Thickness 1 3/16 Greatest pitch of stays 12 x 14.5 Working pressure of plate by rules 225  
 Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 Material of tube plates steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 11 7/8 x 9 1/4  
 Pitch across wide water spaces 14 Working pressures by rules 182 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/2 x 1 1/2 Length as per rule 2.5 Distance apart 9" Number and pitch of Stays in each Two of 8"  
 Working pressure by rules 204 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 \_\_\_\_\_

**DONKEY BOILER**— No. 1 Description Marine Type  
 Made at South Shields By whom made J. Beadhead & Sons When made 1906 Where fixed abou Main 130  
 Working pressure 80 tested by hydraulic pressure to 160 No. of Certificate 7202 Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
 No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boiler \_\_\_\_\_  
 enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of te \_\_\_\_\_  
 strength \_\_\_\_\_ Descrip. of riveting long seams \_\_\_\_\_ Rivets \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plating See Form attached Plates \_\_\_\_\_ 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 \_\_\_\_\_  
 joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— 1/2 crank shaft, propeller & propeller shaft  
2 Top end, 2 bottom end, 2 main bearing bolts & nuts, 1 set coupling  
1 set piston bolts, 1 set Air, air, feed & bilge pump valves, iron & bolts & nuts

The foregoing is a correct description,  
J. Beadhead & Sons Manufacturer.

Dates of Survey while building  
 During progress of work in shops— 1905. Dec. 1906. Jan. 5. 12. 22. 30. Feb. 2. 14. 22. March. 28. 29. 30. April. 9. 22. 25. 28. 31. May. 11  
 During erection on board vessel— \_\_\_\_\_  
 Total No. of visits 21

Is the approved plan of main boiler forwarded herewith Yes

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
The machinery of this vessel has been built under special survey & in our opinion is eligible for record F.L.M.C. 5.06

It is submitted that this vessel is eligible for **THE RECORD** F.L.M.C. 5.06.

W. S. B.  
11.5.06

The amount of Entry Fee.. £ 3  
 Special .. £ 36:110  
 Donkey Boiler Fee .. £ ..  
 Travelling Expenses (if any) £ ..

When applied for, **10 MAY 1906**

When received, 12/5/06

E. H. Dryden Payne & W. Lane.  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES. 15 MAY 1906**

Assigned

MACHINERY CERTIFICATE  
 WRITTEN.



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 Foundation

FLAT (If Bo) GARB State thick way of Bo  
 Write 'Sheer Stroke' opposite its corresponding letter.  
 DOUB Leng and thickn  
 POOP BRID FORE  
 manu Plate  
 Has  
 FRA REV  
 Low  
 Bow Top Rig Sail EQ  
 Num Certi  
 72  
 73  
 72  
 199  
 195  
 Iron- or St  
 Boa Pup Win Eng  
 Wha Coa Nun Ceil Car Stat Nun  
 Bul The Buil

Certificate (if required) to be sent to Genusko - in - Type.

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