

# REPORT ON MACHINERY.

Port of WEST HARTLEPOOL.

Received at London Office WED. 4 JUL 1900

Survey held at Hartlepool

Date, first Survey 6<sup>th</sup> Sept. 1899 Last Survey 15<sup>th</sup> June 1900  
(Number of Visits 87)

on the 1 yard no. 74 Sps Ceres

Tons <sup>Gross</sup>  
<sub>Net</sub>

Built at Spezia (Italy) By whom built Cantiere Navale di Muggiano When built

Machinery made at Hartlepool By whom made J. Richardson & Sons Ltd when made

Boilers made at Hartlepool By whom made J. Richardson & Sons Ltd when made

Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

Horse Power as per Section 28 356 Is Electric Light fitted \_\_\_\_\_

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks three

Diameter of Cylinders 24" - 40" - 66" Length of Stroke 48" Revolutions per minute 65 Diameter of Screw shaft as per rule 13"

Diameter of Tunnel shaft as per rule 11" Diameter of Crank shaft journals 13 1/2" Diameter of Crank pin 14" Size of Crank webs 8 1/2" x 19 1/2"

Diameter of screw 16" - 6" Pitch of screw 17" - 9" No. of blades 4 State whether moveable no Total surface 85 sq. ft.

No. of Feed pumps 3 Diameter of ditto 3 1/2" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 3 Diameter of ditto 3 1/2" Stroke 27" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps Lead 4 1/2" x 6" duplex Ballast 8 1/2" x 4" No. and size of Sections connected to both Bilge and Donkey pumps

Engine Room \_\_\_\_\_ In Holds, &c. \_\_\_\_\_

No. of bilge injections one sizes 5" Connected to condenser, or to circulating pump circ. pump Is a separate donkey suction fitted in Engine room of size \_\_\_\_\_

Are all the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses in Engine room always accessible \_\_\_\_\_ 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 \_\_\_\_\_ Are the discharge pipes above or below the deep water line \_\_\_\_\_

Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_ Are the blow off cocks fitted with a spigot and brass covering plate \_\_\_\_\_

How are they protected \_\_\_\_\_

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges \_\_\_\_\_

When were stern tube, propeller, screw shaft, and all connections examined in dry dock \_\_\_\_\_ Is the screw shaft tunnel watertight \_\_\_\_\_

Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 4707 sq. ft. Is forced draft fitted Yes

No. and Description of Boilers 2 Single ended byf. Mult. Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.

Date of test 15.6.00 Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler 57 sq. ft. No. and Description of safety valves to \_\_\_\_\_

Each boiler 3 Area of each valve 11 sq. in. Pressure to which they are adjusted \_\_\_\_\_ Are they fitted \_\_\_\_\_

with easing gear \_\_\_\_\_ Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean diameter of boilers 14" - 9"

Length 11' - 6" Material of shell plates Steel Thickness 1 3/32" Description of riveting: circum. seams double long. seams treble

Diameter of rivet holes in long. seams 1 15/64" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 19"

Per centages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules 183.8 lbs. Size of manhole in shell 13" x 16 1/2"

Size of compensating ring 28" x 30" x 1 1/32" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 47 1/2"

Length of plates \_\_\_\_\_ Thickness of plates 16" 9" Description of longitudinal joint weld No. of strengthening rings \_\_\_\_\_

Working pressure of furnace by the rules 185 lbs. Combustion chamber plates: Material steel Thickness: Sides 19" 3/32" Back 19" 3/32" Top 19" 3/32" Bottom 1"

Thickness of stays to ditto: Sides 8 3/4" x 7 1/2" Back 8 3/4" Top 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183 lbs.

Material of stays steel Diameter at smallest part 1 3/8" Area supported by each stay 65 sq. in. Working pressure by rules 180 lbs. End plates in steam space: \_\_\_\_\_

Material steel Thickness 1 1/32" Pitch of stays 17 1/2" x 11 1/4" How are stays secured Double nuts Working pressure by rules 192 lbs. Material of stays steel

Diameter at smallest part 2 3/8" Area supported by each stay 258 sq. in. Working pressure by rules 190 lbs. Material of Front plates at bottom steel

Thickness 7/8" Material of Lower back plate steel Thickness 25" 3/32" Greatest pitch of stays 12 3/4" Working pressure of plate by rules 180 lbs.

Diameter of tubes 2 1/2" Pitch of tubes 3 1/4" Material of tube plates steel Thickness: Front 15" 1/16" Back 5" 1/4" Mean pitch of stays 7 1/2"

Pitch across wide water spaces 13 1/2" Working pressures by rules 184 lbs. Girders to Chamber tops: Material Steel Depth and \_\_\_\_\_

Thickness of girder at centre 7 1/4" x 1 1/4" Length as per rule 3 1/2" Distance apart 8" Number and pitch of Stays in each three 8"

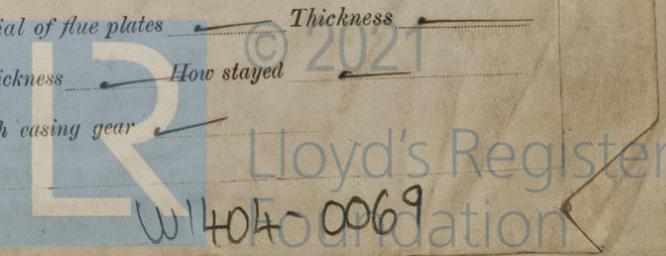
Working pressure by rules 189 lbs. Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked \_\_\_\_\_

Separately \_\_\_\_\_ Diameter \_\_\_\_\_ Length \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet \_\_\_\_\_

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—** Description

Made at \_\_\_\_\_ By whom made \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
 enter the donkey boiler \_\_\_\_\_ Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boilers \_\_\_\_\_  
 Description of riveting long seams \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_  
 joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
 Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— 2 hon. rod top + 2 hon. rod bottom end bolts + nuts, 2 Main bearings + one set of coupling bolts, one set of feed, bilge, air + circulating pump valve, one con. rod bush, 2 safety valve springs, 10 condensers + 12 boiler tubes, one set of Ramsbottom rings for H.P. + I.P. pistons, 1/2 complete set of firebars, one set of H.P. piston rings + one propeller.

The foregoing is a correct description,  
 for THOMAS & CO. ENGINEERS, LIMITED  
 J. G. Boardman  
 (Chief Engineer)  
 Manufacturer.

Dates of Survey while building	During progress of work in shops -	1899. Sept. 6. Oct. 20. Nov. 8. 10. 13. 14. 17. 29. 30. Dec. 1. 2. 4. 5. 6. 7. 8. 9. 11. 12. 13. 14. 15. 18. 19. 27. 29. 1900. Jan. 2. 3. 4. 5. 6. 7. 8. 9. 10. 12. 13. 14. 15. 16.
	During erection on board vessel -	Jan. 24. 27. 30. Apr. 2. 4. 11. 18. 19. 20. 24. 25. 26. 27. 30. May 2. 3. 4. 5. 7. 8. 11. 16. 18. 22. 28. 30.
	Total No. of visits	87

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

**ENGINES**—Length of stern bush 4-6" Diameter of crank shaft journals as per rule 12.29" as fitted 13 1/2" Diameter of thrust shaft under collars 14"  
**BOILERS**—Range of tensile strength 28-32 tons are they welded or flanged no **DONKEY BOILERS**—No. \_\_\_\_\_ Range of tensile strength \_\_\_\_\_  
 Is the approved plan of main boiler forwarded herewith retained for use Is the approved plan of donkey boiler forwarded herewith \_\_\_\_\_

The engines and Boilers have been built under Special Survey, in accordance with the Rule requirements, material and workmanship good, and, in my opinion, eligible to have record **L.M.C.** with a date, marked in the Register Book, when the following work has been satisfactorily carried out. viz. The engines and Boilers to be efficiently fitted on board, shafting examined after being set, Main steam pipe tested by hydraulic pressure to 360 lbs. per sq. in. Spare gear examined, and pumping arrangements fitted as per approved plan; shaft tunnel made watertight and watertight door fitted. Main Boilers to be examined under steam and safety valves adjusted to 180 lbs. per sq. in. and the Machinery after being fitted, to undergo a satisfactory steam trial.

The Machinery and Boilers have been shipped out to Italy, and intended to be fitted on board Messrs Cantiere Navale di Muggiano, N. 7 Vessel.

The amount of Entry Fee. . . £ 3 :  
 Special Fee to be paid . . . £ 25 4/2  
 Donkey Boiler Fee . . . £ :  
 Travelling Expenses (if any) £ :  
 When applied for 3.7.1900  
 When received 3.9.1900  
 see letter from act. 3/9/00

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

Committee's Minute

TUES. 22 MAY 1906

FRI. 31 AUG 1906



Not for Classy. Council  
 (Unclassed Vessel)

Certificate (if required) to be sent to W. Martlepool.

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

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