

REPORT ON MACHINERY.

Port of Sunderland

TUES. 1 MAR 1893

Received at London Office

No. in Survey held at Sunderland Date, first Survey 26 Jan 1892 Last Survey 26 Jan 1893
 Reg. Book. 1892 1893 (No. of Visits 29)
 on the Screw Steam Trawler "Catalonia" Tons { Gross 148 Net 55
 Master Edwards Bros (No. 540) Built at Newcastle By whom built Edwards Bros When built 1892
 Engines made at Swinsay By whom made Great Central Engineering & Repairing Co when made 1892
 Boilers made at Sunderland By whom made H. E. Mar. Eng. Co. Ltd when made 1897
 Registered Horse Power 52 Owners Swinsay Alliance 176 Port belonging to Swinsay
 Nom. Horse Power as per Section 28 52 Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three
 Diameter of Cylinders 18 1/2" 18 1/2" 20" Length of Stroke 22 Revolutions per minute 120 Diameter of Screw shaft 5 7/8"
 Diameter of Tunnel shaft 6 1/4" Diameter of Crank shaft journals 6 1/4" Diameter of Crank pin 6 1/4" Size of Crank webs 7 x 4 1/2"
 Diameter of screw 10" Pitch of screw 1 1/2" No. of blades 12 State whether moveable No Total surface 1200
 No. of Feed pumps one Diameter of ditto 2" Stroke 10" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps one Diameter of ditto 8" Stroke 10" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines one Sizes of Pumps 2 1/2" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps one 2"
 Engine Room one 2" In Holds, &c. one 2"
 Section location in Engine Room Bilge and discharge on deck
 of bilge injections one size 2" Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size 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 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
 How are the pipes carried through the bunkers through to Forward How are they protected woodwork
 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 Jan 2nd Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from —

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 878 sq ft Is forced draft fitted No
 No. and Description of Boilers 1 Cyl. Mult. Single end Working Pressure 180 lbs Tested by hydraulic pressure to 260 lbs
 Date of test 6/11/97 Can each boiler be worked separately Yes Area of fire grate in each boiler 25.8 sq ft No. and Description of safety valves to
 each boiler 2 Spring load Area of each valve 3.1416 Pressure to which they are adjusted 185 lbs Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean diameter of boilers 10' 5"
 Length 9' 6" Material of shell plates S Thickness 3 1/2" Description of riveting: circum. seams D.R. lap long. seams S.R.A. butt
 Diameter of rivet holes in long. seams 3 1/2" Pitch of rivets 6 1/2" Lap of plates 8" width of butt straps 4 5/8" x 14 1/2"
 Percentages of strength of longitudinal joint 87.04% Working pressure of shell by rules 184 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 2' 6" x 2' 2" x 3 1/2" No. and Description of Furnaces in each boiler 2 plain Material S Outside diameter 3' 0"
 Length of plain part 6' 0" Thickness of plates 3 1/4" Description of longitudinal joint S.R.A. butt No. of strengthening rings 1 each
 Working pressure of furnace by the rules 183 lbs Combustion chamber plates: Material S Thickness: Sides 5/8" Back 3/2" Top 5/8" Bottom 3/4"
 Pitch of stays to ditto: Sides 8 5/8" x 8 5/8" Back 8 3/4" x 9" Top 8 5/8" x 7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 184 lbs
 Material of stays S Diameter at smallest part 1.79" Area supported by each stay 78.75 sq in Working pressure by rules 182 lbs End plates in steam space:
 Material S Thickness 1 5/16" Pitch of stays 15" x 15" How are stays secured nuts Working pressure by rules 185 lbs Material of stays S
 Diameter at smallest part 5.06" Area supported by each stay 225 sq in Working pressure by rules 200 lbs Material of Front plates at bottom S
 Thickness 1 3/16" Material of Lower back plate S Thickness 2 9/32" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 200 lbs
 Diameter of tubes 3 3/4" Pitch of tubes 4 1/16" x 4 1/2" Material of tube plates S Thickness: Front 1 3/16" Back 1 3/16" Mean pitch of stays 9 3/8" x 9"
 Pitch across wide water spaces 13" Working pressures by rules 240 lbs Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 4" x 1 1/2" Length as per rule 25 1/2" Distance apart 7 1/2" Number and pitch of Stays in each 2 of 8 5/8"
 Working pressure by rules 212 lbs 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 —
 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 —

THE SURVEYORS ARE REQUESTED TO SIGN



DONKEY BOILER— Description *No Donkey Boiler*

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ 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 boilers _____

enter the donkey boiler _____ Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____

Description of riveting long seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ Rivets _____ 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:— *Two top end bolts. Two bottom end bolts. Two main shaft bolts. One set coupling bolts. One set Dead Pump valves. One set Relief Pump valves. One set check valves. Safety valve opening etc*

The vessel efficient with masts and sails as a power.

The foregoing is a correct description,
Wm Eastern Marine Engineering Co
 Manufacturer.
Walter North

Dates of Surveys: During progress of work in shops - 1897 August 19 17 19 23 25 Sept. 3. 14 Oct. 4. 14. 15. 19 Nov. 6. 9. 11. 12. 18. 22 Decr. 13. 23 24/98 Jan 5. 26. (Hall) Jan. 18. Feb. 1. 4. 8. 18. 23. 25.

building while board vessel - - - - -

Total No. of visits **24**

General Remarks (State quality of workmanship, opinions as to class, &c.) *The main Boiler has been built under Special Survey, materials tested in accordance with the Rule requirements, workmanship good, the boiler satisfactorily withstood an hydraulic test of 360 lbs pres. per square inch.*

The Machinery of this vessel has been constructed under Special Survey and placed on board in accordance with the Society's Rules. They (the Boiler & Machinery) are now in very efficient & safe working condition and the case is respectfully submitted for the Notification of L.M.C. 2. 98 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD.
L.M.C. 2. 98

RS
 1/3/98

Certificate (if required) to be sent to New-castle-on-Tyne

The amount of Entry Fee. £ 1 : - : - : When applied for, 28/2/98

Boiler Special .. £ 2 : 19 : - : 28/2/98

Donkey Boiler Fee .. £ 5 : 1 : - : 28/2/98

Travelling Expenses (if any) £ - : 9 : 6 : 7/4/98

paid 17/2/98
28/2/98
28/2/98
 Robert Bayford Esq
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute **FRI. 4 MAR 1898** WRITTEN.
 Assigned *+ 2 Mar 2, 98*

