

REPORT ON MACHINERY.

New No. 55237.
Old No. 23788.

Port of Sunderland

Received at London Office WED. 5 AUG 1908
TUES. 18 AUG 1908

No. in Survey held at Sunderland Date, first Survey 24th Dec 1907 Last Survey 28 July 1908
 Reg. Book. on the S.S. "Sir Walter Scott" (Number of Visits 59)
 Master Blyth Built at Blyth By whom built Blyth Shipbuilding Co. Tons Gross 1164.65 Net 885.67
 Engines made at Sunderland By whom made North Eastern Marine Engineering Co. When built 1907
 Boilers made at Sunderland By whom made Sitto when made 1907
 Registered Horse Power _____ Owners J. O. Scott & Co. Port belonging to Newcastle
 Nom. Horse Power as per Section 28 181 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 19-31-57 Length of Stroke 36 Revs. per minute 75 Dia. of Screw shaft 11.05 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 yes 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 yes
 If two liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 3.9
 Dia. of Tunnel shaft 9.57 Dia. of Crank shaft journals 10.05 Dia. of Crank pin 10.4 Size of Crank webs 6 1/2 x 15 1/2 Dia. of thrust shaft under collars 10 1/4 Dia. of screw 14.0 Pitch of Screw 14.6 No. of Blades 4 State whether moveable no Total surface 61 ft
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 16 1/2" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 16 1/2" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 9x11x10" & 5 1/2 x 3 1/2 x 5" No. and size of Suctions connected to both Bilge and Donkey pumps _____
 In Engine Room four of 2 1/2" each In Holds, &c. Fore Hold two of 2 1/2" diam
after hold two of 2 1/2" diam Tunnel well 2 1/2" diam
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes-2 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 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
 Dates of examination of completion of fitting of Sea Connections 18.6.08 of Stern Tube 18.7.08 Screw shaft and Propeller 18.7.08
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top Grating Engine Room

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Sons Ltd
 Total Heating Surface of Boilers 293 ft Is Forced Draft fitted no No. and Description of Boilers one S.E. Cyl. Mult.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 23.4.08 No. of Certificate 2699
 Can each boiler be worked separately yes Area of fire grate in each boiler 72 ft No. and Description of Safety Valves to each boiler 2 spring
 Area of each valve 8.29 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 1.10 Mean dia. of boilers 16.93 Length 11.0 Material of shell plates steel
 Thickness 1 1/8 Range of tensile strength 28 3/4/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d & lap
 long. seams l & d & s Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 9 1/2 Lap of plates or width of butt straps 20
 Per centages of strength of longitudinal joint 84.64 Working pressure of shell by rules 180 lbs Size of manhole in shell 16 x 12
 Size of compensating ring 7 x 1 5/8 No. and Description of Furnaces in each boiler 4 height Material steel Outside diameter 43 1/2
 Length of plain part top 17 1/2 Thickness of plates bottom 17 1/2 Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material steel Thickness: Sides 3/4 Back 25/32 Top 3/4 Bottom 7/8
 Pitch of stays to ditto: Sides 8 1/2 x 11 1/2 Back 11 1/2 x 10 Top 8 1/2 x 11 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbs
 Material of stays steel Diameter at smallest part 2.43 Area supported by each stay 115 Working pressure by rules 190 lbs End plates in steam space: _____
 Material steel Thickness 1 1/32 Pitch of stays 25 x 22 1/2 How are stays secured dux Working pressure by rules 180 lbs Material of stays steel
 Diameter at smallest part 9.82 Area supported by each stay 564 Working pressure by rules 141 lbs Material of Front plates at bottom steel
 Thickness 19/32 Material of Lower back plate steel Thickness 19/32 Greatest pitch of stays 14 5/8 x 10 Working pressure of plate by rules 180 lbs
 Diameter of tubes 3 1/2 Pitch of tubes 4 1/8 x 4 1/2 Material of tube plates steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 10 13/16
 Pitch across wide water spaces 14 1/2 Working pressures by rules 215.7 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/2 x 1 7/8 Length as per rule 29.9 Distance apart 11 Number and pitch of stays in each 2 - 8 1/2
 Working pressure by rules 182 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 _____
 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 _____

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description See attached Form
 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 _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 2 Top end, 2 bottom end 2 Main bearing & 1 set of Coupling bolts, 1 set of feed & bilge pump Valves, 1 set Air & Circulating pump Valves, 1 Main & 180 feed check valves, 1 Piston spring, 12 Junk ring bolts, Bolts & nuts assorted & iron of eye 1 Propeller

The foregoing is a correct description,
 NORTH EASTERN MARINE ENGINEERING CO. LTD.
W. M. Scott Manufacturer.

1907: Dec. 27, 30. 1908: Jan. 13, 14, 20, 21, 24, 28, 29, 31. Feb. 4, 5, 7, 10, 11, 12, 14, 18, 19, 21, 25, 26, 28. Mar. 2, 4, 6, 9, 12, 13, 16, 18.
 Dates of Survey while building: During progress of work in shops - - - - -
 During erection on board vessel - - - - -
 Total No. of visits 59.
 Is the approved plan of main boiler forwarded herewith Yes.

Dates of Examination of principal parts—Cylinders 18.2.08 Slides 6.3.08 Covers 31.1.08 Pistons 18.2.08 Rods 18.2.08
 Connecting rods 14.2.08 Crank shaft 18.2.08 Thrust shaft 25.2.08 Tunnel shafts 28.1.08 Screw shaft 26.6.08 Propeller 30/12/08
 Stern tube 4.2.08 Steam pipes tested 21.7.08 Engine and boiler seatings 12-6-08 Engines holding down bolts 21.7.08
 Completion of pumping arrangements 28.7.08 Boilers fixed 21.7.08 Engines tried under steam 28.7.08
 Main boiler safety valves adjusted 28.7.08 Thickness of adjusting washers Port 3/8" ; Star 3/8"
 Material of Crank shaft Steel Identification Mark on Do. 443 B Material of Thrust shaft Steel Identification Mark on Do. 709 RA
 Material of Tunnel shafts Iron Identification Marks on Do. 443 B Material of Screw shafts Iron Identification Marks on Do. 474 B
 Material of Steam Pipes Copper Test pressure 400 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the Engines have been tried under steam and worked satisfactorily.

The Report on the Electric Light has been sent to Messrs Siemens Bros & will be forwarded in due course.

We beg to recommend that this vessel is eligible in our opinion to have the record L.M.C. 8.08 in the Register Book

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 8.08. Electric light.

K. W. Coomber
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
E. A. Dryden Joyce

The amount of Entry Fee.	£ 2 : 0 : 0	When applied for,
Special	£ 27 : 3 : 0	4. 8. 1908
Donkey Boiler Fee	£ : : :	When received, free hand as per letter from 18.10.1908
Travelling Expenses (if any)	£ : : :	

Committee's Minute FRI. 21 AUG 1908
 Assigned + Lmc 8.08

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

