

REPORT ON MACHINERY.

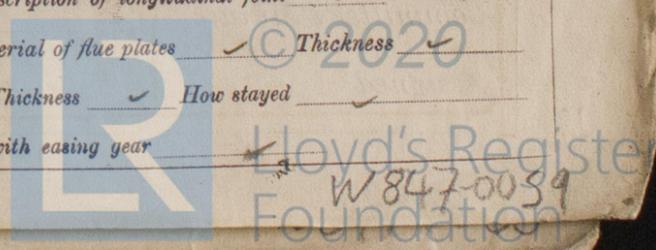
Received at London Office

Date of writing Report 19-11-1912 When handed in at Local Office 21-11-1912 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 30th July Last Survey 19th November 1912
 Reg. Book. Sunderland (Number of Visits 32)
 on the Steel S.S. "Salamanca" Tons } Gross 3246.68
 Master C. J. Daniel Built at Sunderland By whom built J. Blumer & Coy 213 1/2 When built 1918
 Engines made at Sunderland By whom made North Eastern Marine Eng Co Ltd. (200 C.) when made 1918
 Main Engines }
 Boilers made at Sunderland By whom made North Eastern Marine Eng Co Ltd. when made 1918
 Registered Horse Power _____ Owners Scholefield Steam Shipping Co Ltd. Port belonging to Newcastle
 Nom. Horse Power as per Section 28 290 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks Three
 Dia. of Cylinders 24" x 39" x 65" Length of Stroke 42" Revs. per minute 65 Dia. of Screw shaft as per rule 13.26 Material of screw shaft Steel
 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 yes
 If two liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 4'-6 1/2"
 Dia. of Tunnel shaft as per rule 11.75 Dia. of Crank shaft journals as per rule 12.266 Dia. of Crank pin 12 1/2" Size of Crank webs 18 1/2" x 13 1/2" Dia. of thrust shaft under collars 12 1/2" Dia. of screw 16-6" Pitch of Screw 14'-0" No. of Blades 4 State whether moveable no Total surface 86 ft.
 No. of Feed pumps Two Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Two Sizes of Pumps Ballast 4" x 9" x 9"; Feed 4 1/2" x 5" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 @ 3" dia & 1 @ 3 1/2" dia in well. In Holds, &c. 2 @ 3" dia in Fore Hold, 2 @ 3" dia in Main Hold, 2 @ 3" dia & 1 @ 3" dia in well after hold. by 2 @ 3" dia in Tunnel well.
 No. of Bilge Injections two sizes 4 1/2" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room of 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 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 Hold suction How are they protected wood casing
 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 23-10-12. of Stern Tube 4-11-12 Screw shaft and Propeller 4-11-12
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Shenker & Sons
 Total Heating Surface of Boilers 4364 ft. Is Forced Draft fitted no No. and Description of Boilers Two single ended.
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 22-10-12. No. of Certificate 3054
 Can each boiler be worked separately yes Area of fire grate in each boiler 55 1/2 ft. No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 5.94 sq. in. 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 18" outside dia. of boilers 15-9" Length 10-6" Material of shell plates Steel
 Thickness 1 1/16" Range of tensile strength 28 3/4 & 32 lbs. Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9 5/8" Lap of plates or width of butt straps 19 3/4"
 Per centages of strength of longitudinal joint rivets 86.45 Working pressure of shell by rules 180 lbs. Size of manhole in shell 16" x 12"
 Size of compensating ring dished No. and Description of Furnaces in each boiler Three Cor. Material Steel Outside diameter 4 1/2"
 Length of plain part top _____ bottom _____ Thickness of plates crown _____ bottom _____ 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 3/4" Back 2 5/8" Top 3/4" Bottom 3/4"
 Pitch of stays to ditto: Sides 8 1/2" x 10" Back 10 3/4" x 10 3/4" Top 1 1/2" x 11 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbs.
 Material of stays Steel Diameter at smallest part 2.1" Area supported by each stay 102 sq. in. Working pressure by rules 184 lbs. End plates in steam space: Material Steel Thickness 1 3/8" Pitch of stays 22 3/4" x 20 3/4" How are stays secured D.N. Wash Working pressure by rules 180 1/2 lbs. Material of stays Steel
 Diameter at smallest part 8.29" Area supported by each stay 445 sq. in. Working pressure by rules 182 lbs. Material of Front plates at bottom Steel
 Thickness 3/4" Material of Lower back plate Steel Thickness 1 1/16" Greatest pitch of stays 14 3/4" x 10 3/4" Working pressure of plate by rules 182 lbs.
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/4" x 4 5/8" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 10 7/16"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 192 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 @ 8" x 15 1/16" Length as per rule 28 1/2" Distance apart 11 1/8" Number and pitch of stays in each 2 @ 1 1/2"
 Working pressure by rules 180 lbs. Superheater or Steam chest; how connected to boiler how 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 _____

If not, state whether, and when, one will be sent. Is a Report also sent on the Hull of the Ship? 2/23, 29, 9, 20, 58, 10, 21, 2, T.



VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made	No. of Certificate	Fire grate area
Working pressure	tested by hydraulic pressure to	Date of test	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 can enter the donkey boiler	Diap. of donkey boiler	Date of adjustment
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams
Diap. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey

SPARE GEAR. State the articles supplied:— Two each bolts & nuts for top & bottom ends & main bearings
 One set coupling bolts, one set valves for all pumps, 2 safety valve springs, 2 feed check valves.
 One tail end shaft, one set HP & MP piston rings. Assorted bolts nuts & wire sundries etc.

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD

The foregoing is a correct description.

C. D. New
 Manufacturer. Manager.

Dates of Survey while building: During progress of work in shops -- 1912. Jul, 30, 31, Aug, 12, 13, 24, 29, 30, Sep, 6, 12, 13, 18, 23, Oct, 3, 4, 8, 10, 15, 16, 22, 23, 24
 During erection on board vessel --- 25, 28, 29, 30, Nov, 4, 8, 11, 13, 14, 15, 19
 Total No. of visits 32
 Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 3-10-12 Slides 23-10-12 Covers 23-10-12 Pistons 23-10-12 Rods 15-10-12
 Connecting rods 15-10-12 Crank shaft 3-10-12 Thrust shaft 3-10-12 Tunnel shafts 3-10-12 Screw shaft 25-10-12 Propeller 23-10-12
 Stern tube 23-10-12 Steam pipes tested 18-9-12 Engine and boiler seatings 23-10-12 Engines holding down bolts 11-11-12
 Completion of pumping arrangements 15-11-12 Boilers fixed 11-11-12 Engines tried under steam 15-11-12
 Main boiler safety valves adjusted 15-11-12 Thickness of adjusting washers 8 3/16" F 5/16" A 5/16", 8 3/16" F 5/16" A 5/16"
 Material of Crank shaft Steel Identification Mark on Do. 4820-1-2-3-4 K.H. Material of Thrust shaft Steel Identification Mark on Do. 3998 H.K.
 Material of Tunnel shafts Steel Identification Marks on Do. 4348 J.M. 1852 M.P. 1853 M.P. 4936 P.A. 4454 K.H. Material of Screw shafts Steel Identification Marks on Do. 3000 J.M. 5002 P.A.
 Material of Steam Pipes Lap welded with iron 7/8" dia x 5/16" thick 5" dia x 1/2" thick Test pressure 540 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The Machinery of this vessel has been built under special survey, the materials and workmanship are of good quality and the hydraulic tests of the boilers proved satisfactory. The whole of the machinery has been securely fitted on board & tried under steam is in good & safe working condition & eligible in my opinion to be classed & have record. **✠ L.M.C. 11-12** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 11-12

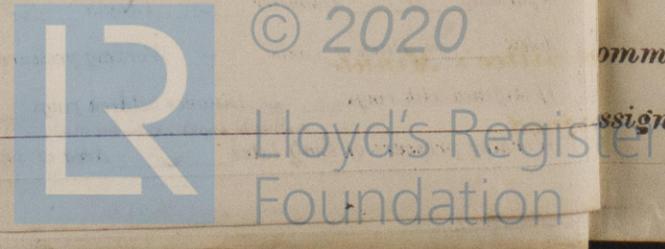
J.P.A.
 22/11/12

William D. Butler
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	£ 2 : 0 0	When applied for,	21. 11. 1912
Special	£ 34 : 10 0	When received,	23. 11. 1912
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

Committee's Minute
 Assigned + L.M.C. 11-12

MACHINERY CERTIFICATE WRITTEN.



Form No. 1A. Write "Bridge Sheer Strake" and "Upper Deck Sheer Strake" opposite the corresponding letter. Certificates (if required) to be sent to Sunderland. (The Surveyors are requested not to write on or below the space for Committee's Minute.)

Rpt. 5a.
 Date of writing
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 Engines made
 Donkey Boiler made
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