

REPORT ON MACHINERY.

No. 65181
FRI. NOV. 28. 1913

Received at London Office

Date of writing Report 25th Nov 1913 When handed in at Local Office 26th Nov 1913 Port of NEWCASTLE-ON-TYNE.
 No. in Survey held at Newcastle Date, First Survey 7th Mar 1913 Last Survey 8th Nov 1913 (at me.)
 Reg. Book. 61 upon the Machinery of the S.S. Anglo Brazilian
 Master Richardson Built at Glenside By whom built Short Bros.
 Engines made at Newcastle By whom made North Eastern Marine Eng. When made 1913
 Boilers made at " By whom made " when made 1913
 Registered Horse Power " Owners Nitrate Producers S.S. Co. Ltd Port belonging to London
 Nom. Horse Power as per Section 28 607 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 25½", 36½", 52½", 76" Length of Stroke 54" Revs. per minute 72 Dia. of Screw shaft 15½" Material of 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 6'-0"
 Dia. of Tunnel shaft 14½" Dia. of Crank shaft journals 14.89" Dia. of Crank pin 15½" Size of Crank webs 22½" x 10" Dia. of thrust shaft under
 collars 15½" Dia. of screw 18'-6" Pitch of Screw 18'-6" No. of Blades 4 State whether moveable no Total surface 1089"
 No. of Feed pumps 2 No. of Bilge pumps 2 Diameter of ditto 8" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 9" x 10" x 10" & 8" x 5½" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 of 4" In Holds, &c. Nº 1 hold, - 10 4". Nº 2 hold, - 10 4". Nº 3 hold, - 20 4". Nº 4 hold, - 10 4". Nº 5 hold, - 20 3½" & 10 4". Tunnel well, - 10 4".
 No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump pumps a separate Donkey Suction fitted in Engine room & size 8"
 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 none
 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 both
 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 26-9-13 of Stern Tube 26-9-13 Screw shaft and Propeller 22/10/13
 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 J. & J. Jones & Sons
 Total Heating Surface of Boilers 8394 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single-ended
 Working Pressure 320 lbs Tested by hydraulic pressure to 440 lbs Date of test 19/9/13 No. of Certificate 8560
 Can each boiler be worked separately Yes Area of fire grate in each boiler 54.5 No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 11.04 Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 15'-6" Length 12-10½" Material of shell plates Steel
 Thickness 1½" Range of tensile strength 29¾-34 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.r. lapp
 long. seams E.R. & butt Diameter of rivet holes in long. seams 1½" Pitch of rivets 10½" Lap of plates or width of butt straps 1'-11¾"
 Per centages of strength of longitudinal joint 91.08 Working pressure of shell by rules 259 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 46"
 Length of plain part top Thickness of plates crown Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 236 lbs Combustion chamber plates: Material Steel Thickness: Sides ¾" Back ¾" Top ¾" Bottom 1½"
 Pitch of stays to ditto: Sides 8" x 8" Back 8" x 8" Top 8" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 300 lbs
 Material of stays Steel Diameter at smallest part 2.03 Area supported by each stay 64 Working pressure by rules 304 lbs and plates in steam space:
 Material Steel Thickness 1½" Pitch of stays 23½" x 18" How are stays secured d.n. & w Working pressure by rules 222 lbs Material of stays Steel
 Diameter at smallest part 11.04 Area supported by each stay 923 Working pressure by rules 266 lbs Material of Front plates at bottom Steel
 Thickness 1½" Material of Lower back plate Steel Thickness 1½" Greatest pitch of stays 14¾" Working pressure of plate by rules 227 lbs
 Diameter of tubes 2¾" Pitch of tubes 4" x 4" Material of tube plates Steel Thickness: Front 1½" Back 1½" Mean pitch of stays 8"
 Pitch across wide water spaces 14¾" Working pressures by rules 227 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10½" x 2½" Length as per rule 42" Distance apart 8½" Number and pitch of stays in each 4 of 8"
 Working pressure by rules 238 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
 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 ✓

W696-004

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *yes*

SPARE GEAR. State the articles supplied:—

Two top end & 2 bottom end bolts, 4 main bearing bolts, 2 sets of coupling bolts, 1 set of feed & bilge pump valves, a quantity of assorted bolts nuts & iron, spare propeller & propeller shaft etc.

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO., LTD.

J. J. Harrison

Manufacturer.

Secretary, 1913

Dates of Survey while building: During progress of work in shops -- *Mar 7, Apr 3, 17, 22, 26, 30, May 1, 8, 9, 15, 16, 20, 27, Jun 3, 11, 13, 17, 18, Jul 4, 9, 18, 22, 23, 25, 28, 31, Aug 7, 8, 13, 19, 20, 25, 26, 27, 29, 31, 3, 4, 8, 11, 12, 13, 16, 17, 19, 22, 23, 30, Oct 16, 22, 24, Nov 4, 6, 7, 8.*
Total No. of visits *55, 61*
Sl. Sep 4, Nov 14, 21, 25, 27, 28 Dec 1.

Is the approved plan of main boiler forwarded herewith? *Yes*

" " " donkey " " " *fixed*

Dates of Examination of principal parts—Cylinders *22/7/13* Slides *4/9/13* Covers *27/5/13* Pistons *18/6/13* Rods *28/4/13*

Connecting rods *3/6/13* Crank shaft *17/6/13* Thrust shaft *29/4/13* Tunnel shafts *9/5/13* Screw shaft *11/6/13* Propeller *16/10/13*

Stern tube *27/8/13* Steam pipes tested *15/9/13* Engine and boiler seatings *22/10/13* Engines holding down bolts *29/10/13*

Completion of pumping arrangements *21-11-13* Boilers fixed *29/10/13* Engines tried under steam *8/11/13*

Main boiler safety valves adjusted *8/11/13* Thickness of adjusting washers *P.P. 5/8" S. 3/4" C.P. 5/8" S. 3/4" S. P. 3/4" S. 3/4"*

Material of Crank shaft *steel* Identification Mark on Do. *23/7/13* Material of Thrust shaft *steel* Identification Mark on Do. *1/5/13*

Material of Tunnel shafts *steel* Identification Marks on Do. *16/5/13* Material of Screw shafts *iron* Identification Marks on Do. *25/8/13*

Material of Steam Pipes *Loop welded steel* Test pressure *660 lbs*

Is an installation fitted for burning oil fuel? *No* Is the flash point of the oil to be used over 150°F? *✓*

Have the requirements of Section 49 of the Rules been complied with? *✓*

Is this machinery duplicate of a previous case? *no* If so, state name of vessel *✓*

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

The machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory; it has been properly fitted on board and secured, the engines have been tried under full power.

I'm my opinion this vessel is eligible for the record of L.M.C. 12-13 with date when the survey is completed

To complete this survey: The donkey boiler safety valves should be adjusted, the safety valve casing gear and pumping arrangements should be examined when completed.

SUNDERLAND — Survey complete.

Now done: — Donkey boiler fixed and its safety valves adjusted (see separate report) the main boiler safety valve casing gear fitted and the pumping arrangements completed.

F.D.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 12-13.

The amount of Entry Fee ... £ *3* :
Special ... £ *50* :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, *NOV 27 1913*
When received, *5.12.1913*

Charles Cooper
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *DEC 12 1913*

Assigned *Thme 12 13*

MACHINERY CERTIFICATE WRITTEN.