

REPORT ON MACHINERY.

No. 66055

Received at London Office 13.10.14

Date of writing Report 9th May 1914 When handed in at Local Office MAY 12 1914 Port of NEWCASTLE-ON-TYNE
 Date, First Survey 6th Nov 1913 Last Survey 1st May 1914
 Name of vessel "Elfland" (Number of Visits 29)
 Name of Survey held at Newcastle
 Name of the Machinery of the S.S. "Elfland"
 Gross Tons 4211
 Net Tons 2670
 Built at Newcastle By whom built Northumberland S.B. Co. When built 1914
 Engines made at Newcastle By whom made N.E. Mannie Eng. Co. Ltd when made 1914
 Boilers made at " By whom made " when made 1914
 Registered Horse Power " Owners A. Dughorn Ltd Port belonging to London
 Nom. Horse Power as per Section 28 371 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25", 41" & 69" Length of Stroke 48" Revs. per minute 62 Dia. of Screw shaft 14.21" 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
 Is 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 Yes Length of stern bush 5'-0"
 Dia. of Tunnel shaft 12.9" Dia. of Crank shaft journals 13.58" Dia. of Crank pin 13.3" Size of Crank webs 2 8/16" X 8 1/4" Dia. of thrust shaft under
 rollers 13 5/8" Dia. of screw 17'-3" Pitch of Screw 18'-3" No. of Blades 4 State whether moveable no Total surface 92 sq ft
 No. of Feed pumps 2 Diameter of ditto 3 3/4" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 9" X 12" X 10" & 2 1/2" X 4 1/2" X 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room 4 of 3 1/2" In Holds, &c. 2 of 3 1/2" in each hold
 & one of 2 1/2" in tunnel.
 No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & 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 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 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 Yes
 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 23/2/14 of Stern Tube 23/2/14 Screw shaft and Propeller 19/3/14
 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. Spence & Son
 Total Heating Surface of Boilers 5895 Is Forced Draft fitted no No. and Description of Boilers 3 single ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 16/1/14 No. of Certificate 8610
 Can each boiler be worked separately Yes Area of fire grate in each boiler 53.33 sq ft No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 5.94 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 4'-3" Mean dia. of boilers 13'-9 1/2" Length 10'-9" Material of shell plates Steel
 Thickness 1 3/32" Range of tensile strength 28 1/2 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.r. lap
 long. seams d.r. d. butt Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 3/4" Lap of plates or width of butt straps 17 3/4"
 Percentages of strength of longitudinal joint rivets 86.7 Working pressure of shell by rules 182 lbs Size of manhole in shell 16" X 12"
 plate 86.4
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Horizons Material Steel Outside diameter 41 1/2"
 Length of plain part top 1 1/2" Thickness of plates bottom 1/2" Description of longitudinal joint welded No. of strengthening rings 1
 Working pressure of furnace by the rules 182 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 2 9/32"
 Pitch of stays to ditto: Sides 9 3/8" X 10 1/2" Back 9 3/8" X 10 1/2" Top 9 3/8" X 10 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.5 lbs
 Material of stays Steel Diameter at smallest part 2.03 Area supported by each stay 98.3 Working pressure by rules 185 lbs End plates in steam space:
 Material Steel Thickness 1 3/8" Pitch of stays 24" X 19 1/2" How are stays secured d.n.r. Working pressure by rules 185 lbs Material of stays Steel
 Diameter at smallest part 8.29 Area supported by each stay 474 Working pressure by rules 182 lbs Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Steel Thickness 2 3/32" Greatest pitch of stays 14 1/2" X 9 3/8" Working pressure of plate by rules 190 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" Material of tube plates Steel Thickness: Front 1" Back 3/4" Mean pitch of stays 8 3/4"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 182 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 3/8" X 14 1/2" Length as per rule 31" Distance apart 10 1/2" Number and pitch of stays in each 2 of 9 3/8"
 Working pressure by rules 187 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked
 separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet.
 holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

W 421-0040



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top end & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, 1 set of springs for L.P. piston, a quantity of assorted bolts nuts & iron, propeller shaft, 1 pair of top end & 1 pair of bottom end bearings, 1 eccentric rod, 2 valve spindles, air & circulating pump rods, pump link brasses & minor details.

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING Co., LTD.

J. Harrison Manufacturer.

Dates of Survey while building: During progress of work in shops - - - 1913 Nov. 6. 10. 26. Dec. 1. 9. 15. 23. 30. 1914 Jan 5. 13. 14. 16. 19. 20. 22. 23. Feb. 9. 16. 17. 19. 23. 24. During erection on board vessel - - - Mar. 3. 9. 19. 27. 31. May 1. Total No. of visits 29

Is the approved plan of main boiler forwarded herewith *Yes*
" " " donkey " " "

Dates of Examination of principal parts—Cylinders 23/1/14 Slides 17/2/14 Covers 17/2/14 Pistons 19/1/13 Rods 24/2/14
Connecting rods 10/11/13 Crank shaft 22/1/14 Thrust shaft 13/1/14 Tunnel shafts 20/1/14 Screw shaft 20/1/14 Propeller 3/3/14
Stern tube 16/2/14 Steam pipes tested 12/3/14 Engine and boiler seatings 23/2/14 Engines holding down bolts 23/2/14
Completion of pumping arrangements 1/4/14 Boilers fixed 27/4/14 Engines tried under steam 31/3/14
Main boiler safety valves adjusted 31/3/14 Thickness of adjusting washers P.P. 1/8" S. 1/4" C. P. 1/8" S. 1/4" S. P. 1/4" S. 5/16"
Material of Crank shaft *Steel* Identification Mark on Do. 22/1/14 *ℓℓ* Material of Thrust shaft *Steel* Identification Mark on Do. 13/1/14 *ℓℓ*
Material of Tunnel shafts *Steel* Identification Marks on Do. 20/1/14 *ℓℓ* Material of Screw shafts *Steel* Identification Marks on Do. 6/2/14 *ℓℓ*
Material of Steam Pipes *Lap welded iron* ✓ Test pressure 540 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, and the engines have been tried under full power. In my opinion the vessel is eligible for the record of L.M.C. 5, 14

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5. 14.

J.W.D.
A.P.R.
13/5/14

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

The amount of Entry Fee ... £ 3 : : When applied for, MAY 12 1914
Special ... £ 38 : 11 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : When received, 25/5/14

Committee's Minute TUE. MAY. 19. 1914
Assigned + L.M.C. 5, 14

NEWCASTLE-ON-TYNE

Certificate (if required) to be sent to

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

