

REPORT ON MACHINERY.

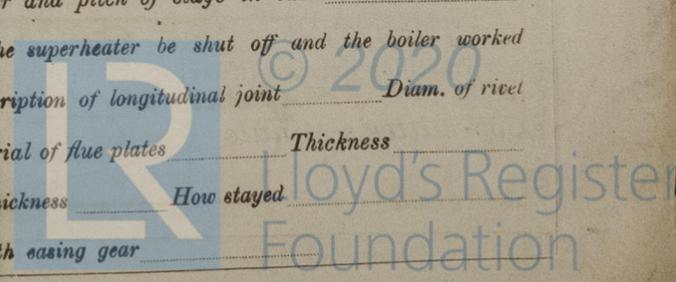
No. 4634
TUES. FEB 19 1907

Port of Grimsey Received at London Office 19
 No. in Survey held at Grimsey Date, first Survey 15 September 06 Last Survey Feb 19 1907
 Reg. Book 18 in 18 the Engines (No 39) for the S.T. NORA NIVEN. (Number of Visits 24)
 Master Mediter. Built at Selby By whom built Cochran & Sons (No 39) Tons Gross 166 Net 57 When built 1906/7
 Engines made at Grimsey By whom made 9th Central Co-op Exch. Co. Ltd when made 1907
 Boiler made at Stockton By whom made Riley Bros. Ltd when made 1906
 Registered Horse Power 50 Owners The Napier Fish Supply Co Port belonging to Napier, N.Z.
 Nom. Horse Power as per Section 28 50 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted No

ENGINES, &c.—Description of Engines Trip sep. surface end. No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 10 1/4, 15 3/4, 26 1/4 Length of Stroke 20 Revs. per minute 110 Dia. of Screw shaft as per rule 6 1/4 Material of screw shaft Exp. 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 Yes Length of stern bush 2-3"
 Dia. of Tunnel shaft as per rule 4-05 Dia. of Crank shaft journals as per rule 5 1/2 Dia. of Crank pin 5 1/2 Size of Crank webs 6 1/2 x 3 3/8 Dia. of thrust shaft under
 collars 5 1/4 Dia. of screw 7-9 Pitch of Screw 9-0 No. of Blades 4 State whether moveable No Total surface 20 sq.
 No. of Feed pumps 1 Diameter of ditto 2" Stroke 10" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 1 Diameter of ditto 3" Stroke 10" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 1 Sizes of Pumps 6 x 3 1/2 ab. Jarvis No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Sea bilge & hotwell 2" bore. In Holds, &c. Fish hold and Fresh water tanks
 No. of Bilge Injections 1 sizes 2 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Ejector 2 1/2" bore.
 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 Fish room & Fresh water suction are they protected Strong 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 15/11/06 of Stern Tube 15/11/06 Screw shaft and Propeller 15/11/06
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record) Manufacturers of Steel
 Total Heating Surface of Boilers 1800 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers
 Working Pressure 180 lbs. Tested by hydraulic pressure to 240 lbs. Date of test 15/11/06 No. of Certificate
 Can each boiler be worked separately Yes Area of fire grate in each boiler 480 sq. ft. No. and Description of Safety Valves to
 each boiler 1 Area of each valve 14 sq. in. Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear
 Smallest distance between boilers or uptakes and bulkheads or woodwork 48 in. Mean dia. of boilers 48 in. Length 12 ft. Material of shell plates
 Thickness 3/16 in. Range of tensile strength 48,000 lbs. Are the shell plates welded or flanged Yes Descrip. of riveting: cir. seams
 long. seams None Diameter of rivet holes in long. seams 3/16 in. Pitch of rivets 2 in. Lap of plates or width of butt straps
 Per centages of strength of longitudinal joint 85% Working pressure of shell by rules 180 lbs. Size of manhole in shell
 Size of compensating ring None No. and Description of Furnaces in each boiler 1 Material Cast Iron Outside diameter
 Length of plain part 12 ft. Thickness of plates 3/16 in. Description of longitudinal joint Butt No. of strengthening rings
 Working pressure of furnace by rules 180 lbs. Combustion chamber plates: Material Cast Iron Thickness: Sides 3/16 in. Back 3/16 in. Top 3/16 in. Bottom
 Pitch of stays to ditto: Sides None Back None Top None If stays are fitted with nuts or riveted heads Yes Working pressure by rules
 Material of stays Cast Iron Diameter at smallest part 1/2 in. Area supported by each stay 10 sq. ft. Working pressure by rules 180 lbs. End plates in steam space:
 Material Cast Iron Thickness 3/16 in. Pitch of stays None How are stays secured None Working pressure by rules 180 lbs. Material of stays
 Diameter at smallest part 1/2 in. Area supported by each stay 10 sq. ft. Working pressure by rules 180 lbs. Material of Front plates at bottom
 Thickness 3/16 in. Material of Lower back plate Cast Iron Thickness 3/16 in. Greatest pitch of stays None Working pressure of plate by rules
 Diameter of tubes 1 1/2 in. Pitch of tubes 12 in. Material of tube plates Cast Iron Thickness: Front 3/16 in. Back 3/16 in. Mean pitch of stays
 Pitch across wide water spaces 12 in. Working pressures by rules 180 lbs. Girders to Chamber tops: Material Cast Iron Depth and
 thickness of girder at centre 12 in. Length as per rule 12 ft. Distance apart 12 in. Number and pitch of stays in each
 Working pressure by rules 180 lbs. Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked
 separately Yes Diameter 12 in. Length 12 ft. Thickness of shell plates 3/16 in. Material Cast Iron Description of longitudinal joint Butt Diam. of rivet
 holes 3/16 in. Pitch of rivets 2 in. Working pressure of shell by rules 180 lbs. Diameter of flue 12 in. Material of flue plates Cast Iron Thickness
 If stiffened with rings None Distance between rings None Working pressure by rules 180 lbs. End plates: Thickness 3/16 in. How stayed None
 Working pressure of end plates 180 lbs. Area of safety valves to superheater None Are they fitted with easing gear Yes

W1541-0211



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description

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:— *Screw shaft, propeller, main and auxiliary feed check valves, feed circulating air and bilge pump valves, one set chain and strap, one set coupling bolts, 2 top end bolts, 2 bottom end bolts, 2 main bearing bolts, boiler and condenser tubes, bolts and nuts*

The foregoing is a correct description,

For the GREAT CENTRAL CO-OPERATIVE ENGINEERING & SHIP REPAIRING COMPANY, LTD.

J. Fred. J. J. J.

Dates of Survey while building

During progress of work in shops - - 1906:— Sep. 15, 20, Oct 8, 29, 27, 31, Nov 9, 8, 13, 21, 23, 27, Dec 6, 10

During erection on board vessel - - 1907:— Jan 1, 4, 8, 10, 14, 24, 28, 29, Feb 1, 5

Total No. of visits Twenty-Four (24)

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

Dates of Examination of principal parts—Cylinders *20/10/06, 8/1/06*. Slides *8/1/06, 6/12/06*. Pistons *8/1/06*. Rods *8/1/06*.

Connecting rods *8/1/06*. Crank shaft *22/11/06*. Thrust shaft *27/11/06*. Tunnel shafts *✓*. Screw shaft *27/11/06, 1/11/06*. Propeller *1/11/06*.

Stern tube *20/10/06*. Steam pipes tested *14/11/07*. Engine and boiler seatings *20/11/06*. Engines holding down bolts *11/4/1907*.

Completion of pumping arrangements *8/1/07*. Boilers fixed *8/1/07*. Engines tried under steam *29/1/07*.

Main boiler safety valves adjusted *29/1/07*. Thickness of adjusting washers *7/4*.

Material of Crank shaft *Steel* Identification Mark on Do. *503*. Material of Thrust shaft *Sp. Iron* Identification Mark on Do. *N° 505*.

Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Sp. Iron* Identification Marks on Do. *N° 102*.

Material of Steam Pipes *Copper Solid drawn* Test pressure *360 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *These engines have been constructed under special survey; the materials and workmanship are good and the case is eligible in my opinion for the notation + H.M.C. 2.07.*

It is submitted that this vessel is eligible for THE RECORD H.M.C. 2.07.

J.S.
19.2.07

This office.

Certificate (if required) to be sent to

The amount of Entry Fee, £ 1 : 0 : 0 When applied for.

Special ... £ 8 : 0 : 0 8/2/07

Donkey Boiler Fee ... £ 9 : 0 : 0 When received, 27/5/07

Travelling Expenses (if any) £ 3 : 0 : 0

Committee's Minute 6 : 0 : 0

Assigned + Lm 6.2.07

FRI, FEB 22 1907

J. D. Ritchie
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



MACHINERY CERTIFICATE WRITTEN.

No. in Reg. Book. 28 Sep on

Master

Engines made

Boilers made

Registered H

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(Letter for r

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Dates of Survey while building