

REPORT ON MACHINERY.

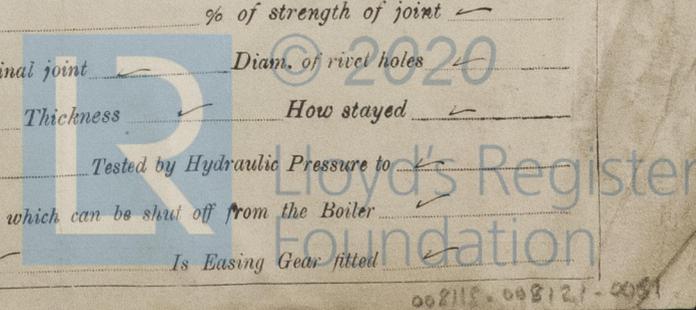
Received at London Office

Date of writing Report Oct. 4 1918 When handed in at Local Office Oct. 18 1918 Port of Montreal
 No. in Survey held at Lewis. Que. Date, First Survey Jan. 17 1917 Last Survey July 30 1918
 Reg. Book. on the S. Carberry "CANORA" (Number of Visits 28)
 Master N. McKay. Built at Lewis. Que. By whom built David Shipley & Rep. Co. Ltd. Tons } Gross 2382
 Engines made at Toronto. Ont. By whom made John Inglis Co. when made 1916 Net 940
 Boilers made at " " By whom made " " when made 1916
 Registered Horse Power 166.6 Owners Canadian Northern R.R. Co. Port belonging to Quebec
 Nom. Horse Power as per Section 28 374 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 4 No. of Cranks 4
 Dia. of Cylinders 24"-38"-43"-43" Length of Stroke 30" Revs. per minute 140 Dia. of Screw shaft 11.74 Material of screw shaft Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No lines 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 48"
 Dia. of Tunnel shaft 10.35 as per rule 10.45 Dia. of Crank shaft journals 10.86 as per rule 10.98 Dia. of Crank pin 11" Size of Crank webs 12 x 7 1/2 Dia. of thrust shaft under
 collars 11" Dia. of screw 12.0" Pitch of Screw 12.0" No. of Blades 4 State whether moveable Yes Total surface 44 sq ft
 No. of Feed pumps 2 Simplex Diameter of ditto 7" Stroke 12" Can one be overhauled while the other is at work Yes Independent
 No. of Bilge pumps 2 Diameter of ditto 12" Stroke 12" Can one be overhauled while the other is at work Yes Independent
 No. of Donkey Engines 8 Sizes of Pumps 1 Ballast 14 x 18 x 18 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 - 3 1/2" Ballast Room 1 - 3 1/2" In Holds, &c. Fore Peak Tank 1-2 1/2" No. 1 Hold 1-3 1/2" No. 2 Hold 1-3 1/2"
Aft Peak 1-2 1/2" Ballast. FPH 1-2 1/2" Fore Deep Tank 1-8" Aft Deep Tank 1-8" Aft Peak Tank 1-2 1/2"
 No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes - 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 Yes
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves and cocks
 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
 Is the Screw Shaft Tunnel watertight Summit through Is it fitted with a watertight door Yes worked from Eng Room

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel North Bros. Coatsville Pa. U.S.A.
 Total Heating Surface of Boilers 6344 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 4 Scotch
 Working Pressure 145 lbs Tested by hydraulic pressure to 263 lbs Date of test 23rd 24th 1916 No. of Certificate 13
 Can each boiler be worked separately Yes Area of fire grate in each boiler 36.5 sq ft No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 7.06 sq in Pressure to which they are adjusted 145 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 14 inches Mean dia. of boilers 11'6" Length 11'6" Material of shell plates Steel
 Thickness 3/32" Range of tensile strength 28 TONS Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double
 long. seams Double Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 16 1/2"
 Per centages of strength of longitudinal joint rivets 93% Working pressure of shell by rules 182.9 lbs Size of manhole in shell 11" x 15"
 plate 85% Size of compensating ring 30 x 34 x 1" No. and Description of Furnaces in each boiler 2 Morrison Material Steel Outside diameter 39 3/4"
 Length of plain part top 4" bottom 4" Thickness of plates crown 1/2" bottom 1/2" Description of longitudinal joint Welded No. of strengthening rings —
 Working pressure of furnace by the rules 175 lbs Combustion chamber plates: Material Steel Thickness: Sides 2/16" Back 9/16" Top 9/16" Bottom 1"
 Pitch of stays to ditto: Sides 6 x 6" Back 6 x 6" Top 7 x 7 1/2" If stays are fitted with nuts or riveted heads on bounding ones Working pressure by rules 225 lbs
 Material of stays Steel Area at smallest part 4 1/2 x 9 1/2" Area supported by each stay 36 sq in Working pressure by rules 220 End plates in steam space:
 Material Steel Thickness 7/8" Pitch of stays 15 x 14" How are stays secured Sub. Working pressure by rules 191 lbs Material of stays Steel
 Area at smallest part 2 1/4" Area supported by each stay 210 sq in Working pressure by rules 196 Material of Front plates at bottom Steel
 Thickness 15/16" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 15" Working pressure of plate by rules 220 lbs
 Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 3/4" Material of tube plates Steel Thickness: Front 15/16" Back 3/4" Mean pitch of stays 8 1/8" x 8 1/2"
 Pitch across wide water spaces 14" Working pressures by rules 183 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8 1/2" double Length as per rule 2'-5" Distance apart 7 1/2" Number and pitch of stays in each 3-7"
 Working pressure by rules 237 lbs Steam dome: description of joint to shell — % of strength of joint —
 Diameter — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet holes —
 Pitch of rivets — Working pressure of shell by rules — Crown plates — Thickness — How stayed —

SUPERHEATER. Type — Date of Approval of Plan — Tested by Hydraulic Pressure to —
 Date of Test — Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler —
 Diameter of Safety Valve — Pressure to which each is adjusted — Is Easing Gear fitted —



IS A DONKEY BOILER FITTED?

No. ✓

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

- 1 set of connecting rod bolts top end ✓
- 1 set of " " " " bottom end ✓
- 1 set of coupling bolts. ✓
- 2 Main bearing bolts ✓
- 1 set of feed pump valves. ✓
- 1 set of Air pump valves ✓
- 1 set of bilge pump valves. ✓
- (No piston springs as all are solid pistons) ✓

The foregoing is a correct description,

The Blue Dragon & Co Ltd

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } See Toronto Report attached.
 { During erection on board vessel -- } 1917. Jan. 14. Feb. 2. Mar. 2. April 10. 25 May 3. 29 Sept. 26 Oct. 27 Nov. 12 Dec. 8. 1918. Jan 8. 25
 { Total No. of visits } 28.
 Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 10/3/16 14/3/16 Slides 29/3/16 Covers 29/3/16 Pistons 29/3/16 Rods 29/3/16
 Connecting rods 29/3/16 Crank shaft 29/3/16 Thrust shaft 29/3/16 Tunnel shafts 29/3/16 Screw shaft 29/3/16 Propellers
 Stern tube 5. 4-16-17 Steam pipes tested 27/6/18 Engine and boiler seatings 16-4-18 Engines holding down bolts 17/5/18
 Completion of pumping arrangements 13/6/18 Boilers fixed 17/5/18 Engines tried under steam 27/7/18
 Completion of fitting sea connections 13/6/18 Stern tube 17/5/18 Screw shaft and propeller 17/5/18
 Main boiler safety valves adjusted 28/6/18 Thickness of adjusting washers Lock out.
 Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do.
 Material of Steam Pipes Steel ✓ Test pressure 525 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. These engines have been fitted on board the vessel and tried under steam and all auxiliaries. All the machinery was found to be working well.

The main steam pipes were tested on board to 525 lbs water pressure and found tight. The safety valves were adjusted under steam to a pressure of 178 lbs per sq in.

The surveyors report on the engines during construction in Toronto is attached to this report. No forging certificates were forwarded and no marks had been transferred to the finished shafting. The manufacturers state that all the forgings were tested by the manufacturers.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7. 18. F.D.

Date of Report built Thoulda be 7. 18
ARR

JWR 27/11/18.

The amount of Entry Fee ... £	:	:	When applied for.
Special £	:	:	19.....
Donkey Boiler Fee £	:	:	When received,
Travelling Expenses (if any) £	:	:	19.....

H. J. Alderson
Engineer Surveyor to Lloyd's Register of Shipping.

TUE. 18. MAR. 1919

Committee's Minute

Assigned

+ L.M.C 7. 18 F.D.



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Certificate (if required) to be sent to Montreal.

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