

REPORT ON MACHINERY.

Received at London Office 12.7.1920

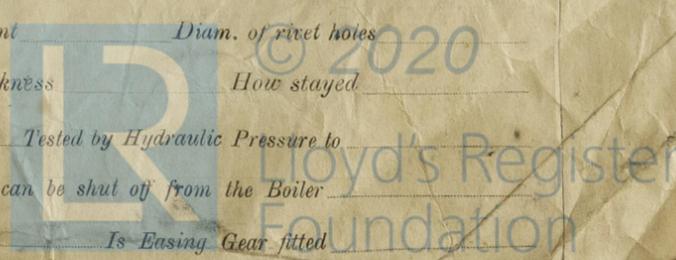
Date of writing Report 10.7.1920 When handed in at Local Office 10.7.1920 Port of Spawick
 Date, First Survey 2 Dec 1919 Last Survey 29 June 1920
 (Number of Visits 3)
 on the S.S. "INVERTYNE"
 Tons { Gross 259
 Net 111
 When built 1920
 Master Henry Seave Ltd
 Built at Leasale By whom built Henry Seave Ltd
 Engines made at Gt. Yarmouth By whom made Crabtree & Co. Ltd No 546 when made 1920
 Boilers made at Lincoln By whom made Butts & Hornsby & Co. when made 1920
 Registered Horse Power _____ Owners British Mercantile Navigation Co. Port belonging to London
 Nom. Horse Power as per Section 28 40 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 9 1/2, 15, 24 Length of Stroke 18 Revs. per minute _____ Dia. of Screw shaft as per rule 5 1/4 Material of screw shaft Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner Is the after end of the liner made water tight
 Is the propeller boss ✓ If the liner is in more than one length are the joints burned ✓ If the liner does not fit tightly at the part
 on the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓ If two
 are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 24 3/4
 Dia. of Crank shaft journals as per rule 4 3/4 Dia. of Crank pin as per rule 5 Dia. of Crank webs 7 1/2 x 3 1/2 Dia. of thrust shaft under
 Dia. of screw 5 1/2 Dia. of screw 6-4 Pitch of Screw 8-0 No. of Blades 4 State whether moveable No Total surface 15 1/2
 of Feed pumps one Diameter of ditto 2 1/2 Stroke 8 Can one be overhauled while the other is at work ✓
 of Bilge pumps one Diameter of ditto 2 1/2 Stroke 8 Can one be overhauled while the other is at work ✓
 of Donkey Engines one Sizes of Pumps 6 x 4 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Two 2" In Holds, &c. one 2" in cofferdam

Bilge Injections 1 sizes 2 1/2 Connected to condenser, or to circulating pump opp. Is a separate Donkey Suction fitted in Engine room & size one 2"
 Are 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 the 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
 Are the pipes carried through the bunkers No bunkers How are they protected nothing tanks only
 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 yes Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel See separate report
 Heating Surface of Boilers 814 Is Forced Draft fitted No No. and Description of Boilers 15B
 Working Pressure 180 Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
 Can each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to _____
 Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Minimum distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates _____
 Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____
 Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____
 Stages of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____
 No. and Description of Furnaces in each boiler _____ Material _____ Outside diameter _____
 Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____
 Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____
 Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____
 Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____
 Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____
 Steam dome: description of joint to shell _____ % of strength of joint _____
 Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____
 Working pressure of shell by rules _____ Crown plates _____ Thickness _____ How stayed _____

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



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top end, two bottom end, two main bearings
one set coupling bolts & nuts, one set air feed & bilge pump valves
one main & one donkey check valve, one spare burner & gear for oil fuel
pumps. A quantity of assorted bolts & nuts & iron of
various sizes.

The foregoing is a correct description,

J. A. Bhandelani

J. A. Bhandelani

Manufacturer.

Dates of Survey while building: During progress of work in shops - - 1919 Dec 21, 31 (1920) Jan 14 Mar 20 Apr 9 19 22 May 6, 14 June 3, 23, 29
During erection on board vessel - - - - - Hull: 1920: - June 11, Jul 26, 30, Aug 16, Sep 6, 9, 11, 14, 30 Oct 4, 7, 8 -
Total No. of visits 13 + 12 = 25.

Is the approved plan of main boiler forwarded herewith

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Dates of Examination of principal parts—Cylinders 10-12-19 Slides 10-12-19 Covers 10-12-19 Pistons 10-12-19 Rods 10-12-19

Connecting rods 10-12-19 Crank shaft ✓ Thrust shaft ✓ INT Tunnel shafts 25-3-20 9-4-20 Screw shaft 25-3-20 9-4-20 Propeller 9-4-20 19-4-20

Stern tube 25-3-20 Steam pipes tested 30/7/20 Engine and boiler seatings 26/7/20 Engines holding down bolts 26/7/20

Completion of pumping arrangements 8/10/20 Boilers fixed 7/10/20 Engines tried under steam 8/10/20

Completion of fitting sea connections 11/6/20 Stern tube 11/6/20 Screw shaft and propeller 11/6/20

Main boiler safety valves adjusted 7/10/20 Thickness of adjusting washers 7/16" 5/16" + 5/16"

Material of Crank shaft Steel Identification Mark on Do. 3753 WOH Material of Thrust shaft - Identification Mark on Do. -

Material of INT Tunnel shafts Steel Identification Marks on Do. 152 067 Material of Screw shafts Steel Identification Marks on Do. 152 067

Material of Steam Pipes Copper Test pressure 400 lbs

Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes

Have the requirements of Section 49 of the Rules been complied with Yes

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 Engine has been built under Special Survey, in accordance with the approved plans and the Society's Rules. The materials and workmanship are sound and good.

The engines & boiler have been satisfactorily fitted on board the vessel. On completion they were examined while running full power trials in the Harbour.

The machinery throughout is now in good & efficient condition & eligible in my opinion to have the record B.L.M.C. 10-20 marked in Red in the Society's Register Book, also fitted for oil fuel & P. above 150°F. The requirements of Section 49 of the Rules has been fully complied with.

It is submitted that this vessel is eligible for THE RECORD + LMC 10-20 FITTED FOR OIL FUEL 10-20 FP ABOVE 150°F

The amount of Entry Fee ... £ 2-5-0
Special ... £ 4-10-0
Donkey Boiler Fee ... £
Travelling Expenses (if any) £ 2-2-0

Robert Rae
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. OCT. 26 1920

Assigned + L.M.C 10.20 Fitted for oil fuel 10.20. F.P. above 150°F

