

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 29 OCT 1930

Date of writing Report 19 When handed in at Local Office 20.10.1930 Port of Glasgow

No. in Survey held at Paisley Date, First Survey 25-4-30 Last Survey 17-10-1930
 Reg. Book on the Twin Sc. S.S. "HIRAVATI" (Number of Visits 40)

Built at Paisley By whom built Bow & M. Lachlan & Co. Ltd Yard No. 493 Tons Gross 580 Net 246
 Engines made at Paisley By whom made Bow & M. Lachlan & Co. Engine No. 4019-20 when made 1930
 Boilers made at Paisley By whom made Bow & M. Lachlan & Co. Boiler No. 1209 when made 1930
 Registered Horse Power Owners Bombay S.N. Co. Ltd Port belonging to Bombay
 Nom. Horse Power as per Rule 240 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
 Trade for which Vessel is intended

ENGINES, &c. — Description of Engines Twin Triple Expansion Surface Condensing Revs. per minute 246
 Dia. of Cylinders 12"-20"-33" Length of Stroke 21" No. of Cylinders 6 No. of Cranks 6
 Crank shaft, dia. of journals as per Rule 6.37" as fitted 6.5/8" Crank pin dia. 6.5/8" Crank webs Mid. length breadth 12 1/4" Thickness parallel to axis 4 3/8"
 Intermediate Shafts, diameter as per Rule 6.07" as fitted 6.3/8" Thrust shaft, diameter at collars as per Rule 6.37" as fitted 6.5/8"
 Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 6.91" as fitted 7 1/2" Is the shaft fitted with a continuous liner no.
 Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per Rule as fitted Is the after end of the liner made watertight in the propeller boss yes
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner 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 Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft yes
 Propeller, dia. 7'-0" Pitch 7'-0" No. of Blades 4 Material Bronze whether Movable Solid Total Developed Surface 18 sq. feet
 Main Engines worked from the Main Engines, No. 1 each ENG. Diameter 2 3/4" Stroke 9" Can one be overhauled while the other is at work yes
 Bilge Pumps worked from the Main Engines, No. 1 " Diameter 3" Stroke 9" Can one be overhauled while the other is at work yes
 Feed Pumps No. and size 1 of 8"x6"x8" How driven Steam Pumps connected to the Main Bilge Line No. and size 2 Main ENG. 3"x9" 1 of 6"x6"x6" How driven Steam
 Main Bilge Line Lubricating Oil Pumps, including Spare Pump, No. and size
 Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps: — In Engine and Boiler Room 2 of 2" Blr Rm. Forw. 2 of 2" Blr Rm. Aft. 1 of 2" Eng. Room Forw. 3 of 2" Eng. Room Aft. 3 of 2"
 Holds, &c. Store Room 1 of 2" Crew Space Aft. 1 of 2" Passenger Shelter 3 of 2" Passenger Shelter Aft. 3 of 2"
 Tunnel space 1 of 2" Stem tube Comp. 1 of 2" Well Store 1 of 2"
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 of 6" Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size 1 of 3" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes yes
 Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes
 Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stowhold plates yes Are the Overboard Discharges above or below the deep water line below
 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 pass through the bunkers none How are they protected
 What pipes pass through the deep tanks none Have they been tested as per Rule
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another yes Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

MAIN BOILERS, &c. — (Letter for record S) Total Heating Surface of Boilers 4274 sq. ft.
 Forced Draft fitted yes No. and Description of Boilers 1 Double ended Cylinder Working Pressure 200 lbs
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? yes
 PLANS. Are approved plans forwarded herewith for Shafting yes Main Boilers yes Auxiliary Boilers yes Donkey Boilers yes
 (If not state date of approval) General Pumping Arrangements See three plans Oil fuel Burning Piping Arrangements yes
 OVERHEATERS
 PARE GEAR. State the articles supplied: — as per attached List

The foregoing is a correct description,

BOW, M'LACHLAN & CO., LTD.

John Baxter
Manufacturer.

Manufacturer.

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Lloyd's Register Foundation

1930 Apr 11, 14, 25 May 1, 7, 13, 16, 20, 23, 26, 29 June 4, 11, 16, 23, 30 July 8, 15, 17, 18
 During progress of work in shops --- 22, 28 Aug 15, 19, 21, 25, 26 Sep 3, 6, 10, 16, 24, 27, 30 Oct 1, 7, 9, 14, 15, 17
 Dates of Survey while building
 During erection on board vessel ---
 Total No. of visits 40

Dates of Examination of principal parts—Cylinders 20-5-30, 23-6-30, 26-5-30, 30-6-30, 16-6-30, 8-7-30, 17-7-30 Slides 28-7-30 Covers 23-6-30, 30-6-30, 8-7-30
 Pistons 13-5-30, 16-5-30, 8-7-30 Piston Rods 13-5-30, 16-5-30 Connecting rods 7-5-30
 Crank shaft 26-8-30, 23-6-30 Thrust shaft 26-8-30 Intermediate shafts 26-8-30
 Tube shaft ✓ Screw shaft 8-7-30, 26-8-30, 28-7-30 Propeller 26-8-30
 Stern tube 8-7-30 Engine and boiler seatings 15-7-30 Engines holding down bolts 1-10-30
 Completion of fitting sea connections 26-8-30
 Completion of pumping arrangements 14-10-30 Boilers fixed 3-9-30 Engines tried under steam 15-10-30
 Main boiler safety valves adjusted 14-10-30 Thickness of adjusting washers Port 3/8" Starb. 1/32"
 Crank shaft material Steel Identification Mark G.E.M. 23-6-30 Thrust shaft material Steel Identification Mark 3593/4 G.E.M. 26-8-30
 Intermediate shafts, material Steel Identification Marks LLOYD'S TEST No. GEM 3572, 3577, 3578, 3579, 3591 Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material Steel Identification Mark 8720 G.E.M. 26/8/30 Steam Pipes, material Steel ✓ Test pressure 600 lb. Date of Test 26-9-30.
 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 the Rules for the use of oil as fuel been complied with yes
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no If so, have the requirements 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 and boilers have been built under Special Survey in accordance with the Rules and approved plans. The materials and workmanship are good. They have been properly fitted on board, tried under full working condition and found satisfactory, and is eligible in my opinion for the record in the Register Book of + L.M.C. 10-30 T.S.O.G. Fitted for oil fuel 10-30. F.P. above 150° Fah.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.30 O.G. F.D. Fitted for oil fuel (10-30) F.P. above 150°F.

30/10/30

The amount of Entry Fee ... £ 4 0-0 :
 Special ... £ 60 0-0 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 28 OCT 1930
 When received, 1-11-1930

G. E. Murdoch
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 28 OCT 1930

Assigned + L.M.C. 10, 30

CERTIFICATE WRITTEN

Fitted for oil fuel 10-30 F.P. above 150°F



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