

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 16 DEC 1946

Date of writing Report 30th Oct., 1946 When handed in at Local Office 30th Oct., 1946 Port of Vancouver, B. C.

No. in Survey held at Vancouver, B. C. Date, First Survey 14 Feb. 1945 Last Survey 11th October, 1946

Reg. Book (Number of Visits 60) on the Steel Single Screw Steamer "RABAU" (Launched as H.M.S. "OXFORDNESS") Tons {Gross 7348.93 Net 4577.35

Built at Vancouver, B.C. By whom built West Coast Shipbuilders Ltd. Yard No. 153 When built 1945-6 163 conversion No.

Engines made at Lachine, Que. By whom made Dominion Engineering Wks Engine No. 201 When made 1944 Ltd.

Boilers made at Vancouver, B.C. By whom made Vancouver Iron Works Ltd. Boiler No. 839-840 When made 1945

Registered Horse Power 229 Owners W.R. Carpenter (Canada) Ltd. Port belonging to Suva, Fiji Islands

Nom. Horse Power as per Rule 651 ⁶⁴³ Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

Trade for which Vessel is intended All seas. ^{MN = 667}

ENGINES, &c.—Description of Engines Triple Expansion (Superheat 450°F) Revs. per minute 76

Dia. of Cylinders 24 1/2" x 37" x 70" Length of Stroke 48 No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 14.21" Crank pin dia. 14 1/4" Crank webs Mid. length breadth - Thickness parallel to axis 9" LP 9 1/2"

Intermediate Shafts, diameter as per Rule 13.53" as fitted 13.5" Thrust shaft, diameter at collars as per Rule 14.21" as fitted 14.25" Pin 7 1/8" Journal 7 3/8"

Tube Shafts, diameter as per Rule - as fitted - Screw Shaft, diameter as per Rule 15.07" as fitted 15.25" Is the screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule .75" as fitted .78125" Thickness between bushes as per Rule .565" as fitted .68" 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 Continuous

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 Tight fit

If two liners are fitted, is the shaft lapped or protected between the liners No Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No

Propeller, dia 18'-6" Pitch 16'-0" No. of Blades 4 Material Bronze whether Moveable Solid Total Developed Surface 117 sq. ft.

Feed Pumps worked from the Main Engines, No. None Diameter - Stroke - Can one be overhauled while the other is at work -

Bilge Pumps worked from the Main Engines, No. Two Diameter 4 1/2" Stroke 26" Can one be overhauled while the other is at work Yes

Feed Pumps (No. and size Two off 12"x8"x24" Pumps connected to the Main Bilge Line (No. and size Four 2 off 10x11 - 12 Duplex 2 ME 4 1/2" Rams

How driven Worthington Steam Simplex Main Bilge Line How driven Steam & Main Engine

Ballast Pumps, No. and size One 10x11x12 Duplex 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 One 3"P&S; One 3"Thrust Recess; One 2 1/2"Tunnel Well; One 3"P&S Ford Cofferdam;

In Pump Room One 2 1/2"P&S Aft Cofferdam; One In Holds, &c. One 3"P&S Nos. 1, 2, 3, 4 Holds; One 3" No. 4 Hold Ford; One 3" Ford & Aft in No. 5 Hold

Main Water Circulating Pump Direct Bilge Suctions, No. and size One - 10" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two - 5"

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 As approved

Are all Sea Connections fitted direct on the skin of the ship No - To Cast steel stands Are they fitted with Valves or Cocks Valves

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold 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 No - Welded as approved

What Pipes pass through the bunkers None How are they protected -

What pipes pass through the deep tanks D.B. Air pipes Have they been tested as per Rule Yes

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 Yes Is it fitted with a watertight door Yes worked from Upp. Dk. Level in E.R. Total 10233

MAIN BOILERS, &c.— (Letter for record -) Total Heating Surface of Boilers 9704 sq. ft. plus 529 sq. ft. Super Heaters

Which Boilers are fitted with Forced Draft Both Which Boilers are fitted with Superheaters Both

No. and Description of Boilers Two B. & W. Water Tube Working Pressure 250 lbs./sq. in. Superheat 230 lbs./sq. in.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? -

Can the donkey boiler be used for domestic purposes only -

PLANS. Are approved plans forwarded herewith for Shafting U.K. Main Boilers 17-7-43 Auxiliary Boilers - Donkey Boilers -

(If not state date of approval) Superheaters 17-7-43 General Pumping Arrangements N.Yk. 10-6-46 Oil fuel Burning Piping Arrangements 9-7-43 As fitted plan attached

SPARE GEAR. Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied One C.I. Propeller; 1 set piston rings & springs for main engine (HP, MP, LP) sets main bearings with 2 bolts & nuts for same; 2 pair top end & 1 pair bottom end brasses with bolts nuts; 1 piston rod complete; 1 ahead & 1 astern eccentric rod with eccentric straps; 1 set valve spindles (HP, MP, LP.); 30 tubes for main condenser & 30 for aux. condenser; 1 oil fuel heater complete with valves & fitting. Feed pumps: 2 suct. 2 disch. valve seats & springs 8 stm. piston rings; 20 bakelite rings for water end plunger; 1 slide valve with actuating gear complete; 1 steel & 1 bronze piston rod; 1 Relief valve spring; All Ball G.S. O. Fuel; Main & Aux. Circ. pumps & steering gear supplied with sets of piston rings. Piston rods: slide valves & valve actuating gears, suct. & disch. valves where these are fitted & a large quantity of hand tools. Buffer springs for steering gear. Boiler spaces: 20 tubes 4" dia. 40 tubes 2" dia. 6 safety valve springs including 2 for spt. valve 6 gauge glasses; 18 hand hole fittings (square & oval) with 100 joints for same, 2 superheater elements; 1 feed check valve discs; 1 soot blower valve complete; 6 hand tools; 6 wire brushes, 4 tube scrapers files & rakes.

The foregoing is a correct description

J. C. [Signature]

Manufacturer.

WEST COAST SHIPBUILDERS LTD.



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See Montreal Report No. 6534

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - -

1945 Feb. 14, 17, 19, 24, 26, 28 March 3, 5, 7, 8, 10, 22, 23, 24, 28, 29 April 3, 4, 9, 10 May 10, 17 June 20, 21 July 11, 12, 16, 17, 20, 25, 27, 30, 31 Aug. 6, 7, 8, 13

1946 July 4, 8, 15, 18, 24, 26 Aug. 13, 23, 27 Sept. 4, 5, 6, 9, 10, 11, 24, 28 Oct. 2, 3, 7, 8, 11

Total No. of visits 60

Dates of Examination of principal parts - Cylinders Slides Covers

Pistons Piston Rods Connecting rods 29-11-44, 1-12-44,

Crank shaft Thrust shaft 27 - 10 - 44 Intermediate shafts 6-12-44, 7-12-44

Tube shaft Screw shaft fitted 4-4-45 Propeller 4 - 4 - 45

Stern tube 28 - 3 - 45 Engine and boiler seatings 4 - 4 - 45 Engines holding down bolts 9 - 9 - 46

Completion of fitting sea connections 12 - 4 - 45

Completion of pumping arrangements 6 - 9 - 46 Boilers fixed 16 - 4 - 45 Engines tried under steam 2 - 10 - 46

Main boiler safety valves adjusted 4 - 9 - 46 Thickness of adjusting washers Lock Nuts fitted

Crank shaft material O.H. Steel Identification Mark Lloyd's No. 4852 B.H. Thrust shaft material O.H. Steel Identification Mark Lloyd's No. 3161 B.H.

Intermediate shafts, material O.H. Steel Identification Marks Lloyd's 3361 Lloyd's 3335 14-2-45 RG Lloyd's 3376 14-2-45 RG

Screw shaft, material O.H. Steel Identification Mark Lloyd's 3204 E.E.P. Tube shaft material Lloyd's 324 14-2-45 RG Lloyd's 322 14-2-45 RG Lloyd's 3321 14-2-45

Steam Pipes, material S.D. Steel Test pressure 750 lbs. Date of Test 27-7-45

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 Yes If so, have the requirements of the Rules been complied with Yes

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with Deep Tk. Yes

Is this machinery duplicate of a previous case Yes If so, state name of vessel H.M.S. "BEACHY HEAD" Vcr. Rpt. 6522

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery & boilers of this vessel have been constructed & installed under special survey in accordance with approved plans & New York letters & otherwise in conformity with the Society's Rules. The materials have been tested, found efficient & the workmanship is good & sections 20 & 34 of the Rules have been complied with so far as applicable. Propeller aft end of stern bush, shell fastenings of sea cocks & valves & all underwater parts were examined whilst vessel was in dry dock (Sept. 24 to 26, 1946) & all found in good order. The whole installation has been examined under full working conditions during the sea trials, afterwards the engine & boilers were opened up, examined & found in good order. This machinery is eligible, in my opinion, to be classed *LMC 10,46 in the Register Book & to have the Notations of tailshaft C.L. 10,46. Fitted for oil fuel. F.P. above 150°F - 2 W.T.B. 250 lbs. (Spt. 230 lbs.) H.S. 9704 F.D. 10,233

Note:- This ship was originally designed as a 10,000 ton "Victory" type cargo ship but was altered to a Maintenance ship for the British Admiralty Technical Mission and was being fitted out when work was cancelled in August, 1945. The ship was eventually sold by War Assets Corporation in Canada to the present Owners & converted to the original design, involving alterations to machinery piping & electrical installation.

Copies of Interim Certificate herewith also copies of Principal Forging reports

Montreal fees charged on Montreal Report 6534 Received 21/12/45

The amount of Entry Fee ... \$120.00 * When applied for,

Special ... \$ 13.00 : 5 Dec. 1945 * 17 Oct. 46

Donkey Boiler Fee ... \$: When received,

Alterations & Additions \$125.00

Travelling Expenses (if any) \$ 27.00 * 21 Dec. 1945 * (\$147.00)

30.00

K. B. Buchanan
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 10 JAN 1947

Assigned ✓ + LMC 10,46

FITTED FOR OIL FUEL 10,46 FLASH POINT ABOVE 150°F. F.D. C.L.

2 W.T.B. 250 lb (Spt. 230 lb)



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Certificate to be sent to

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