

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report ^{11th Sept} 1938 When handed in at Local Office ^{13th Sept} 1938 Port of Danzig
 No. in Survey held at Elbing and Danzig Date, First Survey 14th May, 37 Last Survey 25th Jan 1939
 Reg. Book. on the Steel Twin Screw Drag Suction Hopper Dredger "Fu Shing" Tons ^{Gross} ^{Net}
 Built at Danzig By whom built F Schichau G. m. b. H. Yard No. 1400 When built 1938
 Engines made at Elbing By whom made F Schichau G. m. b. H. Engine No. 3679/80 When made 1938
 Boilers made at Oberhausen By whom made Deutsche Babcock & Wilcox Dampfessel-Werke A. G. Boiler No. 8504/5/6/7 When made 1938
 Registered Horse Power 4000 Owners Whangpoo Conservancy Board Port belonging to Shanghai
 Nom. Horse Power as per Rule 908 ^{912 with 225 lb} Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
 Trade for which Vessel is intended For Dredging at Whangpoo River

ENGINES, &c.—Description of Engines 2 triple expansion, 4 cylinder reciprocating eng. Revs. per minute 140
 Dia. of Cylinders 520 x 860 x 2, 980 mm Length of Stroke 900 mm No. of Cylinders 4 No. of Cranks 4
 Crank shaft, dia. of journals ^{as per Rule approved} 285 mm Crank pin dia. 290 mm Crank webs ^{Mid. length breadth 363 mm} ^{Thicknes parallel to axis solid}
 Intermediate Shafts, diameter ^{as per Rule approved} 277 mm Thrust shaft, diameter at collars ^{as per Rule approved} 285 mm
 Tube Shafts, diameter ^{as per Rule} Screw Shaft, diameter ^{as per Rule approved} 320 mm Is the ^{tube} shaft fitted with a continuous liner no liner
 Bronze Liners, thickness in way of bushes ^{as per Rule} Thickness between bushes ^{as per Rule} Is the after end of the liner made watertight in the propeller boss
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner
 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
 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 If so, state type Vicker Patent Stand Length of Bearing in Stern Bush next to and supporting propeller 1495 mm
 Propeller, dia. 3600 mm Pitch 3250 mm No. of Blades 4 Material Cast iron whether Moveable fixed Total Developed Surface 5.8 m²
 Feed Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work
 Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work
 Feed Pumps ^{No. and size 3 of 36.4 dm³/h. each} ^{How driven steam} Pumps connected to the ^{No. and size 2 of 45 cbm/h each & 2 of 100 cbm/h each} ^{How driven steam} Main Bilge Line ^{How driven steam}
 Ballast Pumps, No. and size 2 of 100 cbm/h each 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 3 of 75 mm diam. in aft eng. room— 4 of 70 mm diam. in boiler room.
 In Pump Room 2 of 70 mm diam. In Holds, &c. 2 of 70 mm diam. in each outside hopper trunks.
4 of 70 mm diam. in inside hopper trunks, 1 of 70 mm dia. in valve room, 2 of 70 mm dia. in forew. hold.
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 of 350 mm. aft eng. room Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 3 of 125 mm diam. aft 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 valves and cocks
 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 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 pass through the bunkers nine How are they protected
 What pipes pass through the deep tanks 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 machinery aft if fitted with a watertight door worked from

MAIN BOILERS, &c.—(Letter for record W. T.) Total Heating Surface of Boilers 4 x 370 m² = 1480 m² = 15880 ft²
 Is Forced Draft fitted yes No. and Description of Boilers 4 Babcock Wilcox Type Working Pressure 17.2 kg/cm²
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded?
 Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting 26.4.37 Main Boilers 23.6.37 Auxiliary Boilers Donkey Boilers
 Superheaters 23.6.37 General Pumping Arrangements 30.7.37 Oil fuel Burning Piping Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes
 State the principal additional spare gear supplied 2 Propeller Shafts, 2 Propellers (pts etc) 2 Crankshaft sections, 6 Piston Rods (2 of each size used) 2 HP Valve Liners

The foregoing is a correct description,

F. Schichau
G. m. b. H.

Manufacturer. X

ppa Ed. Wiebe. F.T. Minty's Register

Foundation

19th November 1937 till 3rd April 1938

Dates of Survey while building

During progress of work in shops - - 1937. May 14. 26. June 9. July 14. 27. Aug. 3. 13. 17. 27. Sept 3. 10. 21. 28. Oct 1. 8. 12. 15. 19. 22. 28. Nov 2. 4. 9. 16.

During erection on board vessel - - - 3rd April 1938 till 13th September 1938 - 25th January 1939.

Total No. of visits continued attendance

Dates of Examination of principal parts - Cylinders 19. 11. 37 & 30. 12. 37 Slides 27. 7. 37 & 5. 3. 38 Covers 31. 5. 37 & 5. 3. 38

Pistons 31. 5. 37 & 5. 3. 38 Piston Rods 2. 7. 37 & 5. 3. 38 Connecting rods 13. 8. 37 & 15. 2. 38

Crank shaft 27. 7. 37 & 29. 12. 37 Thrust shaft 10. 12. 37 & 8. 2. 38 Intermediate shafts 1. 10. 37 & 26. 1. 38

Tube shaft ✓ Screw shaft 24. 9. 37 & 30. 12. 37 Propellers 3. 1. 38 and 14. 3. 38

Stern tube 5. 4. 38 & 7. 2. 38 Engine and boiler seatings 9. 3. 38 Engines holding down bolts 2. 5. 38

Completion of fitting sea connections 1. 4. 38

Completion of pumping arrangements 23. 7. 38 Boilers fixed 22. 4. 38 Engines tried under steam 3. 9.

Main boiler safety valves adjusted 26. and 27. 7. 38 Thickness of adjusting washers 38.5 - 41.5 - 34.5 - 28.5 - 32.5 - 33.5 - 32.

Crank shaft material S.M. Steel Identification Mark 4158/39 FS. 28.12.37 Thrust shaft material S.M. Steel Identification Mark 4220 FS. 26.1.38

Intermediate shafts, material S.M. Steel Identification Marks 4213 FS. 26.1.38 Tube shaft, material ✓ Identification Mark

Screw shaft, material S.M. Steel Identification Mark 4163 FS. 28.12.37 Steam Pipes, material S.M. Steel Test pressure 52 Kg/cm² Date of Test 14. 6. 38 & 5. 7. 38

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 the Rules for the use of oil as fuel been complied with ✓

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 ✓

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have 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. The machinery of this vessel has been constructed and installed on board under the supervision of the Society's Surveyor and the requirements of the Rules have been complied with in every respect. The machinery was found to be in accordance with the approved plans. All materials used in the construction have been tested as required by the Rules of this Society and with satisfactory results. After completion the machinery was tested under full working condition and was found working satisfactory.

The machinery of this vessel is in my opinion eligible to be classed in the Society's Register Book with record + L.M.C with date and TS(09) with date To be assigned by the Committee for whose consideration this report is forwarded as per London letter of the 21st January 1939 (5). The following items remain to be completed. Overspeed trips to be fitted to the D.C. turbo generators and tested on completion Turbine of 3rd Generator to be fitted on board and tested on completion.

The vessel is laid up in Danzig Harbour for an indefinite period.

The amount of Entry Fee ...	£10-0-0:	When applied for,
Special ...	200-14-0:	6. 12. 1938
Donkey Boiler Fee ...	£ :	When received,
Travelling Expenses (if any)	£136-10-0:	21. 12. 1938.

J. Mill
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 28 FEB 1939

Assigned to Amb. 1.39 Subject Spt. 22. 09.

