

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

No. 4050

Date of writing Report 1915 10 33 When handed in at Local Office 1915 10 33 Port of Oslo Received at London Office 22 MAY 1933

No. in Survey held at Fredrikstad Date, First Survey 1/12.1932 Last Survey 2/12 1933  
 Reg. Book. 76913 on the steamer "HELLE" (Number of Visits 15)

Built at Wilmington Del. By whom built Pusey & Jones Yard No. Tons Gross 2467 Net 1398  
 Engines made at Fredrikstad By whom made Fredrikstad mch. Works Engine No. When built 5.1918  
 Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. When made 1933  
 Registered Horse Power \_\_\_\_\_ Owners Hummelid (Thorsf. Kalla) Port belonging to Porqumund  
 Nom. Horse Power as per Rule 247.7 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 Trade for which Vessel is intended \_\_\_\_\_

ENGINES, &c. — Description of Engines Double compound, Fredrikstad Steam mch. Revs. per minute 82

Dia. of Cylinders Two 365, Two 820 Length of Stroke 775 No. of Cylinders 4 No. of Cranks 4  
 Crank shaft, dia. of journals as per Rule 256.7 as fitted 258 Crank pin dia. 260 Crank webs Mid. length breadth 490 Mid. length thickness 164 Thickness parallel to axis 164 Thickness around eye-hole 129

Intermediate Shafts, diameter as per Rule as fitted 266 Thrust shaft, diameter at collars as per Rule as fitted 266 279 at collar

Tube Shafts, diameter as per Rule as fitted \_\_\_\_\_ Screw Shaft, diameter as per Rule as fitted 317 Is the tube screw shaft fitted with a continuous lining no, 2 liners

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 \_\_\_\_\_

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 protected Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft yes If so, state type \_\_\_\_\_

Propeller, dia. 13'-9 1/2" Pitch 11'-6" No. of Blades 4 Material Brass whether Movable no Total Developed Surface 60 sq. feet

Feed Pumps worked from the Main Engines, No. no Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

Bilge Pumps worked from the Main Engines, No. no Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

Feed Pumps { No. and size 2 off, 10" x 6" x 24" Pumps connected to the Main Bilge Line { No. and size one, 9" x 7 1/2" x 10', one 7" x 7 1/2" x 8 1/2" How driven Steam \_\_\_\_\_

Ballast Pumps, No. and size one 9" x 7 1/2" x 10', one 7" x 7 1/2" x 8 1/2" Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_

Are two independent means arranged for circulating water through the Oil Cooler \_\_\_\_\_

Bilge Pumps; — In Engine and Boiler Room one 3 1/2' 3 off 3' Suctions, connected to both Main Bilge Pumps and Auxiliary In Pump Room \_\_\_\_\_

In Holds, &c. as originally fitted

Main Water Circulating Pump Direct Bilge Suctions, No. and size \_\_\_\_\_ Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size \_\_\_\_\_

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 \_\_\_\_\_

Are all Sea Connections fitted direct on the skin of the ship \_\_\_\_\_ Are they fitted with Valves or Cocks \_\_\_\_\_

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the Overboard Discharges above or below the deep water line \_\_\_\_\_

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel \_\_\_\_\_ Are the Blow Off Cocks fitted with a spigot and brass covering plate \_\_\_\_\_

What Pipes pass through the bunkers \_\_\_\_\_ 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 \_\_\_\_\_

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 \_\_\_\_\_ Is the Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

MAIN BOILERS, &c. — (Letter for record \_\_\_\_\_) Total Heating Surface of Boilers \_\_\_\_\_

Is Forced Draft fitted yes, see attached report and Description of Boilers \_\_\_\_\_ Working Pressure 200 lb

IS A REPORT ON MAIN BOILERS NOW FORWARDED? \_\_\_\_\_

IS A DONKEY BOILER FITTED? \_\_\_\_\_ 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 crank shaft Main Boilers \_\_\_\_\_ Auxiliary Boilers \_\_\_\_\_ Donkey Boilers \_\_\_\_\_  
 (If not state date of approval) approval 9/12.32. General Pumping Arrangements \_\_\_\_\_ Oil fuel Burning Piping Arrangements \_\_\_\_\_

Superheaters approval 2/12.1932

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes

State the principal additional spare gear supplied 25 condenser tubes & 50 ferrules, 50 fire bars, one cast iron propeller

The foregoing is a correct description,

Manufacturer.

H. Ahlström & Söner  
Fredrikstad mch. Works  
Vill. Olsen



IF THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.

Dates of Survey while building  
 During progress of work in shops -- 1/12, 10/12, 28/12-1932  
 20/1, 3/2, 8/2, 9/2, 15/3, 16/3, 17/3, 24/3, 25/3. 1933.  
 During erection on board vessel --- 20/4, 23/4, 29/4. 1933.  
 Total No. of visits 15.

Dates of Examination of principal parts—Cylinders 8/2, 6/3, 14/3, 27/3-33 Slides 25/3. 1933 Covers 25/3. 1933.  
 Pistons 27/3. 1933. Piston Rods 27/3. 1933 Connecting rods 27/3. 1933  
 Crank shaft 25/3. 1933 Thrust shaft 25/3. 1933 (original shaft) Intermediate shafts 25/3. 1933. (Original shaft)  
 Tube shaft Screw shaft 25/3. 1933 (original shaft) Propeller 25/3. 1933.  
 Stern tube 25/3. 1933 (original tube) Engine and boiler seatings 25/3. 1933 Engines holding down bolts 29/4. 33.  
 Completion of fitting sea connections 20/4. 1933. Boilers fixed Engines tried under steam 29/4. 1933.  
 Completion of pumping arrangements 20/4. 1933. Main boiler safety valves adjusted 29/4. 1933. Thickness of adjusting washers  
 Crank shaft material S.M. steel Identification Mark LLOYDS 1580-1581 Thrust shaft material Identification Mark  
 Intermediate shafts, material Identification Marks Tube shaft, material Identification Mark  
 Screw shaft, material Identification Mark Steam Pipes, material steel Test pressure 600 Date of Test 17/3. 33.  
 Is an installation fitted for burning oil fuel. 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. 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. If so, state name of vessel.

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
 This machinery has been built and tested in accordance with the Rules. The crank shaft has been delivered from approved work and with certificate from Lloyd's Register. The workmanship throughout is of the best description. The machinery has been tried during working condition and found to work satisfactory. Certificate for the new screw shaft is attached. The remainder of the machinery survey and the B.S. has also been held and we therefore recommend this vessel's machinery to be classed **NE. 4.33 \* L.M.C. 4.33**

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

The amount of Entry Fee ...	£ 78.00	When applied for,	18/5. 1933
Special ...	940.00	When received,	6.6. 1933
Donkey Boiler Fee ...	£ :		
Travelling Expenses (if any) £	245.-		

H. G. G. T. J. G. R. S.  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 13 JUN 1933

TUE. 27 JUN 1938

Assigned

