

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

8 JUN 1932

Date of writing Report *31<sup>st</sup> May 1932* When handed in at Local Office *6-6-32* Port of *West Hartlepool*  
 No. in Survey held at *West Hartlepool* Date, First Survey *11-1-32* Last Survey *30-5-1932*  
 Reg. Book. on the *screw pilot cutter "B. O. DAVIES"* (Number of Visits *65*) Gross *142.53* Tons Net *60.41*  
 Built at *West Hartlepool* By whom built *Wm Gray & Co Ltd* Yard No. *1058* When built *1932*  
 Engines made at *West Hartlepool* By whom made *Central Marine* Engine No. *1058* when made *1932*  
 Boilers made at *ditto* By whom made *Engine Works* Boiler No. *1058* when made *1932*.  
 Registered Horse Power Owners *Sea Pilot Cutters Co Ltd.* Port belonging to *Middlesbrough*  
 Nom. Horse Power as per Rule *64* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*  
 Trade for which Vessel is intended *For pilot services.*

ENGINES, &c.—Description of Engines *Triple expansion.* Revs. per minute *119*  
 Dia. of Cylinders *11"-18 1/4"-30"* Length of Stroke *22"* No. of Cylinders *3* No. of Cranks *3*  
 Crank shaft, dia. of journals as per Rule *5.92"* as fitted *6"* Crank pin dia. *6"* Crank webs Mid. length breadth *8 3/8"* Thickness parallel to axis *3 3/4"*  
 as fitted *6"* Crank pin dia. *6"* Crank webs Mid. length thickness *3 3/4"* shrunk Thickness around eye-hole *2 8/8"*  
 Intermediate Shafts, diameter as per Rule *5.63"* as fitted *5 3/4"* Thrust shaft, diameter at collars as per Rule *5.91"* as fitted *6"*  
 Tube Shafts, diameter as per Rule *6.26* as fitted *6 3/4"* Is the *tube* shaft fitted with a continuous liner *yes*  
 as fitted *6 3/4"* Is the *screw* shaft fitted with a continuous liner *yes*  
 Bronze Liners, thickness in way of bushes as per Rule *.485* as fitted *1/2"* Thickness between bushes as per Rule *.364* as fitted *3/8"* 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 *yes* Is an approved Oil Gland or other appliance fitted at the after end of the tube  
 shaft *no* If so, state type *yes* Length of Bearing in Stern Bush next to and supporting propeller *2'-6"*  
 Propeller, dia. *7'-6"* Pitch *9'-3"* No. of Blades *4* Material *Cast iron* whether Moveable *no* Total Developed Surface *21* sq. feet  
 Feed Pumps worked from the Main Engines, No. *2* Diameter *2* Stroke *15"* Can one be overhauled while the other is at work *yes*  
 Bilge Pumps worked from the Main Engines, No. *1* Diameter *2* Stroke *15"* Can one be overhauled while the other is at work *yes*  
 Feed Pumps No. and size *2, 6" x 4" x 8"* Pumps connected to the Main Bilge Line (No. and size *1 main 2" x 15", 1 5 1/2", 5 1/2" x 15" (single)*)  
 How driven *Steam* How driven *Steam*  
 Bilge Pumps, No. and size *1, 5 1/2" x 5 1/2" x 15" (20 tons)* Lubricating Oil Pumps, including Spare Pump, No. and size *1*  
 Are there two independent means arranged for circulating water through the Oil Cooler *yes* Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Bilge Pumps;—In Engine and Boiler Room *One of 2" dia.*  
 In holds, &c. *In forward accommodation one of 2". In after accommodation one of 2" dia.*  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size *1 of 2 3/4"* Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 No. and size *1 of 2 3/4"* 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 *yes*  
 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 *yes*  
 Do the Pipes pass through the bunkers *none* How are they protected *yes*  
 Do the pipes pass through the deep tanks *none* 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 *none* Is it fitted with a watertight door *yes* worked from *yes*

MAIN BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *1226* square feet.  
 Forced Draft fitted *no* No. and Description of Boilers *One single ended* Working Pressure *184 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*  
 Superheaters *yes* General Pumping Arrangements *yes* Oil fuel Burning Piping Arrangements *yes*

SPARE GEAR. State the articles supplied:— *2 connecting rod top end bolts & nuts. 2 bottom end ditto 2 main bearing ditto. 1 set coupling ditto. 6 condenser tubes & 20 ferrules. 1 set feed & bilge pump valves & seats. 6 piston studs & nuts. 3 boiler tubes 1 propeller.*

The foregoing is a correct copy of the original report.

W. GRAY & CO. LTD.

*Wm Gray*

Manufacturer.

MANAGING DIRECTOR C.B.E.D.



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Lloyd's Register Foundation

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Dates of Survey while building  
 During progress of work in shops -- 1932 Jan 11. 19. 20. Feb. 1. 2. 3. 4. 5. 8. 9. 11. 12. 15. 16. 18. 19. 22. 23. 25. 26. 29. Mar 1. 3. 4. 7. 8. 9. 10. 11. 15. 16. 17. 21. 22. 23. 24. 30. 31. Apr. 1. 4. 11. 12. 13. 14. 15. 19. 20. 21. 22. 23. 25. 26. 27. 28. 29. 30. May 2. 4.  
 During erection on board vessel --- 6. 10. 11. 19. 27. 28. 30.  
 Total No. of visits 65

Dates of Examination of principal parts—Cylinders 19. 1. 32—23. 3. 32 Slides 25. 2—4. 4. 32 Covers 1. 2—16. 2. 32  
 Pistons 26. 2—1. 4. 32 Piston Rods 16. 2—10. 3. 32 Connecting rods 29. 1—7. 3. 32  
 Crank shaft 30—30. 3. 32 Thrust shaft 11. 3—30. 3. 32 Intermediate shafts 15. 3—11. 4. 32  
 Tube shaft ✓ Screw shaft 9. 3—11. 4. 32 Propeller 11. 4—22. 4. 32  
 Stern tube 15. 3—22. 4. 32 Engine and boiler seatings 26. 4—30. 4. 32 Engines holding down bolts 30. 4. 32  
 Completion of fitting sea connections 13. 4. 32  
 Completion of pumping arrangements 22. 4. 32 Boilers fixed 4. 5. 32 Engines tried under steam 30. 5. 32  
 Main boiler safety valves adjusted 27. 4. 32 Thickness of adjusting washers P.  $\frac{23}{64}$ " S  $\frac{23}{64}$ "  
 Crank shaft material S.M. Ing. Steel Identification Mark 282DDW Thrust shaft material S.M. 9. Stl. Identification Mark 282DDW  
 Intermediate shafts, material S.M. 9. Stl. Identification Marks 282DDW Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material <sup>Seach</sup> Iron Identification Mark 6523 H Steam Pipes, material <sup>Weldless</sup> Steel Test pressure 600lbs. Date of Test 27. 4. 32  
 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 ✓ 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.)  
 This vessel's machinery has been built and installed under Special Survey.  
 The materials and workmanship are good and efficient. On completion it was tried under full steam at sea and found satisfactory.  
 This vessel's machinery in our opinion is eligible to have the notation  $\boxplus$  L.M.C. 5. 32.

The amount of Entry Fee ... £ 2 : 0 : : When applied for, 7. 6. 19. 32  
 Special ... £ 16 : 0 : :  
 Donkey Boiler Fee ... £ : : : When received,  
 Travelling Expenses (if any) £ : : : 13. 7. 19. 32

R.D. Shilston & S.Wood.  
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute TUE. 14 JUN 1932

Assigned + L.M.C. 5. 32  
 C.L.

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

CERTIFICATE WRITTEN.



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