

REPORT ON OIL ENGINE MACHINERY.

No. 13398

Received at London Office

15 AUG 1928

Date of writing Report 13. 8. 1928 When handed in at Local Office 13. 8. 1928 Port of MIDDLESBROUGH.
No. in Survey held at MIDDLESBROUGH. Date, First Survey 16. 6. 27 Last Survey 13. 8. 1928
Reg. Book. Number of Visits 68
2333. on the Single } Screw vessel "GULFHAWK"
Twin }
Triple }
Quadruple }
Built at Haverton Hill on Tees. By whom built Furness S.B. Co. Ltd. Yard No. 123. When built 1928.
Engines made at Middlesbrough By whom made Richardson, Wigham & Co. Engine No. 2574 When made 1928.
Donkey Boilers made at do. By whom made do. Boiler No. 2575 When made 1928.
Brake Horse Power 3600. Owners Gulf Refining Co. Port belonging to Middlesbrough
Nom. Horse Power as per Rule 485. Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted Ye.
Trade for which vessel is intended

IL ENGINES, &c.—Type of Engines DOxford OPPOSED PISTON. 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 40 atm. Diameter of cylinders 640 ¹/₁₆" Length of stroke 2480 ¹/₁₆" No. of cylinders 4. No. of cranks 4-3 throw
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1110 ¹/₁₆" Is there a bearing between each crank Ye.
Revolutions per minute 86. Flywheel dia. 2750 ¹/₁₆" Weight 14.7 tons Means of ignition Compression Kind of fuel used Crude oil
Crank Shaft, dia. of journals as per Rule approved 460 ¹/₁₆" Crank pin dia. 500 ¹/₁₆" Crank Webs Mid. length breadth 700 ¹/₁₆" Thickness parallel to axis 300 ¹/₁₆"
as fitted 460 ¹/₁₆" Mid. length thickness 300 ¹/₁₆" Thickness around eye hole 225 ¹/₁₆"
Flywheel Shaft, diameter as per Rule approved 460 ¹/₁₆" Intermediate Shafts, diameter as per Rule 15.3" 17 Thrust Shaft, diameter at collars as per Rule 408 ¹/₁₆"
as fitted 460 ¹/₁₆" as fitted 24 ¹/₄" as fitted 460 ¹/₁₆"
Tube Shaft, diameter as per Rule 16.8" Is the screw shaft fitted with a continuous liner Ye.
as fitted 19 ³/₄"
Bronze Liners, thickness in way of bushes as per Rule 13 ¹/₁₆" Thickness between bushes as per rule 5 ¹/₈" Is the after end of the liner made watertight in the
as fitted 15 ¹/₁₆" as fitted 7 ¹/₈"
Propeller boss Ye. If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Ye.
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 Ye.
If two liners are fitted, is the shaft lapped or protected between the liners Ye. Is an approved Oil Gland or other appliance fitted at the after
end of the tube shaft no. Length of Bearing in Stern Bush next to and supporting propeller 7'-0"
Propeller, dia. 18'-3" Pitch 15'-0" No. of blades 4. Material Bronze whether Moveable Ye. Total Developed Surface 107. sq. feet
Method of reversing Engines Compressed Air Is a governor or other arrangement fitted to prevent racing of the engine when detached Ye. Means of lubrication
Forced (Thickness of cylinder liners Reinforced Are the cylinders fitted with safety valves Ye. Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material Ye. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Ye.
Cooling Water Pumps, No. 2-6 DRYSDALE CENTREX. Is the sea suction provided with an efficient strainer which can be cleared within the vessel FRESH WATER
COOLING.
Bilge Pumps worked from the Main Engines, No. none Diameter Stroke Can one be overhauled while the other is at work Ye.
Pumps connected to the Main Bilge Line No. and Size 1-3" DRYSDALE CENTREX; 1-6" x 6" LAMONT DUPLEX; 1-10" x 12" x 12" LAMONT DUPLEX BALLAST.
How driven MOTOR STEAM STEAM.
Ballast Pumps, No. and size 1-10" x 12" x 12" LAMONT DUPLEX. Lubricating Oil Pumps, including Spare Pump, No. and size 2-6" x 6" WEIR MOTOR DRIVEN.
Are two independent means arranged for circulating water through the Oil Cooler Ye. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size:—In Machinery Spaces 5-3 ¹/₂" and 1-2" in Cofferdam.
in Holds, &c. 1-2 ¹/₂" in cofferdam forward of E.R. 15 Transfer Pump; 1-3" in Fore Hold; 1-2 ¹/₂" in Pump Room; 1-2 ¹/₂" in chain locker. To Fore Pump.
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-3 ¹/₂" and 1-8"
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Ye. Are the Bilge Suctions in the Machinery Spaces
d from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Ye.
Are all Sea Connections fitted direct on the skin of the ship Ye. Are they fitted with Valves or Cocks Both.
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Ye. 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 Ye. Are the Blow Off Cocks fitted with a spigot and brass covering plate Ye.
That pipes pass through the bunkers none How are they protected Ye.
That pipes pass through the deep tanks Have they been tested as per Rule Ye.
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Ye.
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 Ye. Is the Shaft Tunnel watertight none Is it fitted with a watertight door Ye. worked from Ye.
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Ye.
Main Air Compressors, No. 1. No. of stages 3. Diameters 3 ¹/₈" 7 ³/₄" 13" Stroke 7" Driven by 75 B.H.P. MOTOR
Auxiliary Air Compressors, No. 1. No. of stages 3. Diameters 3 ¹/₈" 7 ³/₄" 13" Stroke 7 ¹/₂" Driven by STEAM ENGINE
Small Auxiliary Air Compressors, No. 1. No. of stages 1. Diameters Stroke Driven by Ye.
Scavenging Air Pumps, No. 1. Diameter 66" Stroke 44" Driven by MAIN ENGINE.
Auxiliary Engines crank shafts, diameter as per Rule 30 BREMEN CERTIFICATE.
as fitted

R RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Ye.
Can the internal surfaces of the receivers be examined Ye. What means are provided for cleaning their inner surfaces manhole
Is there a drain arrangement fitted at the lowest part of each receiver Ye.
High Pressure Air Receivers, No. 1. Cubic capacity of each Internal diameter thickness
Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules
Starting Air Receivers, No. 2. Total cubic capacity 300 cu. ft. Internal diameter 4'-1 ¹/₂" thickness 1 ³/₁₆"
Seamless, lap welded or riveted longitudinal joint riveted Material Steel Range of tensile strength 29/32 Working pressure by Rules 631 lbs. sq. in.

002051-002061-0144

IS A DONKEY BOILER FITTED? *Yes - two*

If so, is a report now forwarded? *Yes*

PLANS. Are approved plans forwarded herewith for Shafting *17. 11. 27*

Receivers *8. 10. 27*

Separate Tanks *✓*

Donkey Boilers *19. 2. 27*

General Pumping Arrangements *23. 4. 28*

Oil Fuel Burning Arrangements *23. 4. 28*

SPARE GEAR 1 cyl. liner, 1 upper and 1 lower piston complete with skirt, rings, and rod; 6 piston rings, 2 centre side top end bolts and nuts; 2 centre and side bottom end bolts and nuts; 2 side end bolts, 2 main bearing studs; 1 set coupling bolts; 1 spare straight and intermediate length for camshaft; 1 set thrust pin 2 spur wheels and 1 bevel wheel for camshaft drive; 4 H.P. fuel pump ram complete with guide, bushings and nuts; 4 fuel valves; 2 H.P. fuel oil bottle; 8 spray plugs; 1 starting valve; 1 relief valve; 1 scavenging pump delivery valve; 1 scavenging pump suction valve; 1 fuel pump body; 2 sets fuel pump suction and discharge valves; 4 lengths fuel pipe with connections; 1 set spare springs; spare lengths of fuel pipe quantity of cone unions and dummy tails for fuel pipes; quantity assorted bolts and nuts, gaskets, cup leather washers, copper and white metal washers and iron of various size. 1 propeller shaft, 2 bronze propeller blade and studs for one flange.

The foregoing is a correct description,

For RICHARD WESTGARTH & Co. LIMITED.

Manufacturer.

Dates of Survey while building
During progress of work in shops-- *1927*
During erection on board vessel-- *1928*
Total No. of visits *68*

Dates of Examination of principal parts—Cylinders *17. 4. 28* Covers *✓* Pistons *17. 4. 28* Rods *17. 4. 28* Connecting rods *25. 4. 28*
Crank shaft *25. 4. 28* Flywheel shaft *✓* Thrust shaft *25. 4. 28* Intermediate shafts *25. 4. 28* Tube shaft *✓*
Screw shaft *20. 2. 28* Propeller *14. 3. 28* Stern tube *8. 3. 28* Engine seatings *1. 3. 28* Engines holding down bolts *17. 7. 28*
Completion of fitting sea connections *23. 4. 28* Completion of pumping arrangements *8. 8. 28* Engines tried under working conditions *11. 8. 28*
Crank shaft, Material *Steel* Identification Mark *LLOYDS NO 6417 CRH. 9. 9. 27* Flywheel shaft, Material *✓* Identification Mark *✓*
Thrust shaft, Material *"* Identification Mark *LLOYDS NO 6411 CRH. 15. 9. 27* Intermediate shafts, Material *Steel* Identification Marks *LLOYDS NO 1128 MK 25. 4. 28 P.T.B.*
Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *"* Identification Mark *LLOYDS NO 2235 T.G. 21. 3. 28 R.D.S.*

Is the flash point of the oil to be used over 150° F. *Yes*

Is this machinery duplicate of a previous case *Yes*. If so, state name of vessel *"Guefbird" (H.M.S. Rpl No. 13338).*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good. This machinery has been built under special survey in accordance with the Rules and Approved Plans, securely fitted aboard and tested under working conditions with satisfactory results and is, in my opinion, suitable for classification with record + L.M.C. 8.28.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.28

CERTIFICATE WRITTEN. 17/8/28.

OIL ENGINES. 2SCSA.

4cy. 25³/₁₆ - 97⁵/₈.

NHP. 785. CL. 2DB. 150H

17/8/28.

The amount of Entry Fee ... £ *6-0-0*

When applied for,

Special ... £ *114-5-0*

/5. 8. 1928

Donkey Boiler Fee

£ *4 : 4 : 0*

When received,

Travelling Expenses (if any) £

TUES. 21 AUG 1928

Committee's Minute

Assigned

Thurs 8.28

CL 2DB-150H Oil Engines



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