

REPORT ON OIL ENGINE MACHINERY.

No. 19162.
12 MAR 1930

Received at London Office

Report of Survey held at Greenock Date, First Survey 12th JUNE 1929 Last Survey 4 3 1930
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 Book. Number of Visits 49
 on the Single Screw vessel M/S "Athelknight"
 Tons Gross 8939.90
 Net 5223.46
 Built at Greenock By whom built R. Duncan & Co. Ltd. Yard No. 394 When built 1930
 Engines made at Greenock By whom made John & Duncan Ltd. Engine No. 1750 When made 1930
 Boilers made at ditto By whom made ditto Boiler No. 1750 When made 1930
 Brake Horse Power 3200 Owners United & Lancashire Port belonging to Liverpool
 Nom. Horse Power as per Rule 4091 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Foreign

ENGINES, &c.—Type of Engines Sumner 180ain (285) 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 500 Diameter of cylinders 630 mm Length of stroke 1300 mm No. of cylinders 12 No. of cranks 12
 Position of bearings, adjacent to the Crank, measured from inner edge to inner edge 892 mm Is there a bearing between each crank Yes
 Revolutions per minute 110 Flywheel dia. 2620 mm Weight 13750 kg Means of ignition Compression Kind of fuel used Diesel
 Crank Shaft, dia. of journals as per Rule 403.3 as fitted 415 mm Crank pin dia. 415 mm Crank Webs Mid. length breadth shrunk Thickness parallel to axis 240 mm
 as fitted 415 mm Mid. length thickness shrunk Thickness around eye-hole 184 mm
 Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 11.26 as fitted 11 3/4" Thrust Shaft, diameter at collars as per Rule 11.8
 as fitted 16 3/8" as fitted 12 3/8"
 Propeller Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 12.38 as fitted 13" Is the tube shaft fitted with a continuous liner Yes
 as fitted as fitted as fitted 13"
 Liners, thickness in way of bushes as per Rule 65 as fitted 34" Thickness between bushes as per Rule 56 as fitted 58" 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
 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 Yes Length of Bearing in Stern Bush next to and supporting propeller 52"
 Propeller, dia. 13.3 Pitch 11-0" No. of blades 4 Material Brass whether Moveable No Total Developed Surface 52 sq. feet
 Method of reversing Engines air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication
 oil Thick Thickness of cylinder liners 36 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Yes
 Cooling Water Pumps, No. 3 (one 6" 2 10" 8") Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Engine Pumps worked from the Main Engines, No. 2 Diameter 8" 9" 10" Stroke 4" 7" 12" 9" Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line { No. and Size 2. 8" 9" 10" How driven Steam
 Main Bilge Pumps, No. and size one 8" 9" 10" Lubricating Oil Pumps, including Spare Pump, No. and size 3 (one 6" 2 7" 8")
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 Pumps, No. and size:—In Machinery Spaces 2. 3 1/2" 2. 3" 2. 2" 2. 2" 2. 2"
 Tanks 2- 10" in each Bilge Pumps 2. 3"
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 5 1/2"
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces
 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 both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform 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
 Are pipes pass through the bunkers Yes How are they protected Yes
 Are pipes pass through the deep tanks Yes 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
 In a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes
 Main Air Compressors, No. 2 No. of stages 3 Diameters 600-540-120 mm Stroke 480 mm Driven by Main Engine
 Auxiliary Air Compressors, No. one No. of stages 3 Diameters 400-350-120 mm Stroke 260 mm Driven by Steam
 All Auxiliary Air Compressors, No. one No. of stages 3 Diameters 400-350-120 mm Stroke 260 mm Driven by Steam
 Ventilating Air Pumps, No. 1 Diameter 100 mm Stroke 100 mm Driven by Steam
 Auxiliary Engines crank shafts, diameter as per Rule as fitted
RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
 Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Manual
 Is there a drain arrangement fitted at the lowest part of each receiver Yes
 High Pressure Air Receivers, No. 4 Cubic capacity of each 150 litres Internal diameter 12" thickness 1 1/2"
 Seamless, lap welded or riveted longitudinal joint Seamless Material S Range of tensile strength 29.33 Working pressure by Rules 1000 lb
 Internal diameter 6-4 1/16" thickness 1 1/16" + 1 1/32"
 Starting Air Receivers, No. 2 Total cubic capacity 1300 CF Internal diameter 6-4 1/16" thickness 1 1/16" + 1 1/32"
 Seamless, lap welded or riveted longitudinal joint Riveted Material S Range of tensile strength 28.32 Working pressure by Rules 350 lb

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auxiliary
IS A ~~THICK~~ BOILERS FITTED? *yes* If so, is a report now forwarded? *yes*
PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Tanks *yes*
aux Boilers *yes* General Pumping Arrangements *yes* Oil Fuel Burning Arrangements *yes*
SPARE GEAR

see separate list attached

The foregoing is a correct description,
For JOHN G. KINCAID & CO. LIMITED.
W. Carter Director. *Manufacturer.*

Dates of Survey while building { During progress of work in shops - (1929) June 12 Aug 19 21 26 30 Sept 11 24 Oct 4 8 15 18 24 30 31 Nov 1 4 5 6 8 11 15 18 20 21 22 26 27 28 29 Dec 2 3 4 5 6 9 10 11 12 13 16 17 18 19 20
During erection on board vessel - 21 30 31 (1930) Jan 8 10 13 14 15 16 17 20 22 23 24 25 30 31 Feb 3 4 5 6 7 10 12 13 18 20 21 24 Mar 1 2 4
Total No. of visits *49*
Dates of Examination of principal parts { Cylinders 24 11 29 Covers 4 11 29 Pistons 28 11 29 Rods 28 11 29 Connecting rods 16 12
Crank shaft 8 1 30 Flywheel shaft 8 1 30 Thrust shaft 8 1 30 Intermediate shafts 8 1 30 Tube shaft 5 1 30
Screw shaft 6 12 29 Propeller 11 12 29 Stern tube 4 12 29 Engine seatings 5 12 29 Engines holding down bolts 4 2 3
Completion of fitting sea connections 11 12 29 Completion of pumping arrangements 7 3 30 Engines tried under working conditions 4 3 30
Crank shaft, Material *S* Identification Mark *N 50 WGM LR* Flywheel shaft, Material *S* Identification Mark *LR 3842 13831 WGM*
Thrust shaft, Material *S* Identification Mark *LR 3842 13831 WGM* Intermediate shafts, Material *S* Identification Marks *LR 3564 3014*
Tube shaft, Material *✓* Identification Mark *LR 13443 3016* Screw shaft, Material *S* Identification Mark *LR 13443 3016*

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 *M/s "Athelwinda" Regt. 9: 1913*

General Remarks (State quality of workmanship, opinions as to class, &c.)
These engines & boilers have been built under special survey in accordance with the approved plans & the workmanship & material are of good quality. They are now securely fitted on board, tested under working conditions & found satisfactory. The machinery is eligible in my opinion for the record of L.M.C. 3.30 (Notation of Doukey Boilers 180lb)

It is submitted that
this vessel is eligible for
THE RECORD. *L.M.C. 3.30*

oil 45c
12cy. 24 13/16 - 51 3/16
200 180lb. oil
207 13

The amount of Entry Fee ... £ 6 : - : When applied for,
Special ... £ 110 : 0 : 4TH MARCH 1930
aux Boiler Fee ... £ 25 : 3 :
aux ~~Boiler Fee~~ ... £ 8 : 8 : 12/3/30
Committee's Minute *GLASGOW* 11 MAR 1930
Assigned *+ L.M.C. 3.30* * 2 D.R. 180lb.

W. Gordon-Mitchell
Engineer Surveyor to Lloyd's Register of Shipping.

GREENOCK OFFICE
Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)