

REPORT ON OIL ENGINE MACHINERY.

No. 19162
12 MAR 1930

Received at London Office

Date of writing Report 15.2.1930 When handed in at Local Office 4th MARCH 1930 Port of Liverpool
Date, First Survey 12th JUNE 1929 Last Survey 4 3 1930
Number of Visits 49

Survey held at Liverpool
on the Single Twin Triple Quad Screw vessel M/S "Athelknight"
Gross Tons 8939.90
Net Tons 5223.46
Built at Port Glasgow By whom built R. Duncan & Co. Ltd Yard No. 394 When built 1930
Engines made at Liverpool By whom made J. & W. Halliday & Co. Ltd Engine No. 1150 When made 1930
Boilers made at ditto By whom made ditto Boiler No. 1150 When made 1930
Indicated Horse Power 3200 Owners United Assurance Co. Ltd Port belonging to Liverpool
Nominal Horse Power as per Rule 409 1/2 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 (2 sets) 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
Flywheel Shaft, diameter as per Rule as approved as fitted 16 3/8 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 12 3/8
Propeller Shaft, diameter as per Rule as fitted as fitted 12.38 Is the tube screw shaft fitted with a continuous liner Yes
Liner thickness in way of bushes as per Rule 65 as fitted 3 1/4 Thickness between bushes as per rule 56 as fitted 5 1/8 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 Length of Bearing in Stern Bush next to and supporting propeller 152

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 de-clutched Yes Means of lubrication oil
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

Boiling Water Pumps, No. 3 (one 6" dia) 2 10" x 8" Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
Large Pumps worked from the Main Engines, No. 2 Diameter 8" x 9" x 10" Stroke 4" x 7" x 9" Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line { No. and Size 2. 8" x 9" x 10" 4" x 7" x 9" How driven Steam
Lubricating Oil Pumps, including Spare Pump, No. and size 3 (one 6" dia) 2 4" x 8"
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" x 2. 3" x 2. 2" x 2. 2"

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 spout and brass covering plate Yes

How are they protected 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 No Is it fitted with a watertight door Yes worked from Yes
If in a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes

Auxiliary 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. — No. of stages — Diameters — Stroke — Driven by —
Reversing Air Pumps, No. — Diameter — Stroke — Driven by —
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 manually
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"
Material Seamless Range of tensile strength 29.33 Working pressure by Rules 1000 lb
Joints Seamless, lap welded or riveted longitudinal joint thickness 1 1/16" & 1 1/32"
Starting Air Receivers, No. 2 Total cubic capacity 1300 CF Internal diameter 6-4 1/16" Working pressure by Rules 356
Material Riveted Range of tensile strength 28.32

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auxiliary
 IS A ~~STEAM~~ 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*
 Boilers *yes* General Pumping Arrangements *-* Oil Fuel Burning Arrangements *I*

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 - (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 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 1*
 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 2*
 Completion of fitting sea connections *11 12 29* Completion of pumping arrangements *7 3 30* Engines tried under working conditions *4 3 1*

Crank shaft, Material *S* Identification Mark *N 150 WGM L.R.* Flywheel shaft, Material *S* Identification Mark *L R 3572 1381 WGM*
 Thrust shaft, Material *S* Identification Mark *L R 3842 1381 WGM* Intermediate shafts, Material *S* Identification Marks *L R 3564 3014*
 Tube shaft, Material *✓* Identification Mark *-* Screw shaft, Material *S* Identification Mark *L R 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 "Athelwincet" Regt. No. 19130*

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, tried 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 76
 200 180th. CL
 25/11/30

The amount of Entry Fee ... £ 6 : - : When applied for,
 Special ... £ 110 : 0 : 4th MARCH 1930
 Boiler Fee ... £ 25 : 3 : When received,
 Travelling Expenses (if any) £ 8 : 8 : 12/3/30

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

Committee's Minute **GLASGOW** 11 MAR 1930
 Assigned + L.M.C. 3.30 * 2 D/A 180lb

GREENOCK D.F.F.C.E.

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



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