

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 31st Nov 1927

Date of writing Report 19 When handed in at Local Office 28. 11. 1927 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 22. 6. 27 Last Survey 23-11-1927
Reg. Book. on the new steel S/S "ZAHRA". (Number of Visits 30)

Built at Glasgow By whom built Harland & Wolff Ltd. Yard No. 811 G Tons { Gross 821
Engines made at Glasgow By whom made D & W Henderson & Co. Ltd. Engine No. 811 G When built 1927
Boilers made at Glasgow By whom made D & W Henderson & Co. Ltd. Boiler No. 811 G when made 1927

Registered Horse Power Owners Vacuum Oil Co. Port belonging to

Nom. Horse Power as per Rule 159 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which Vessel is intended carrying oil in bulk

ENGINES, &c.—Description of Engines Triple expansion Revs. per minute 120

Dia. of Cylinders 16" 26" 42" Length of Stroke 24" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 8 1/2" 8.00 Crank pin dia. 8 5/8" Crank webs Mid. length breadth 13 3/8" Thickness parallel to axis 5 1/2"
as fitted 8 5/8" Mid. length thickness 5 1/2" shrunk Thickness around eye-hole 3 3/32"

Intermediate Shafts, diameter as per Rule 7 1/2" Thrust shaft, diameter at collars as per Rule 8 1/2" as fitted 8 5/8"

Tube Shafts, diameter as fitted none Screw Shaft, diameter as per Rule 8 1/2" 8.46 Is the { tube } shaft fitted with a continuous liner { yes
as fitted 8 3/4" { screw }

Bronze Liners, thickness in way of bushes as per Rule 5/8" Thickness between bushes as per Rule 9/16" Is the after end of the liner made watertight in the
as fitted 5/8" as fitted 9/16" 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 — 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 3' 0"

Propeller, dia. 9' 10" Pitch 10' 4" No. of Blades 4 Material Bronze whether Moveable no Total Developed Surface 33.541 sq. feet

Feed Pumps worked from the Main Engines, No. none Diameter — Stroke — Can one be overhauled while the other is at work —

Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 13 1/2" Can one be overhauled while the other is at work yes

Feed Pumps { No. and size one Weir's 5 1/2" x 12" stroke Pumps connected to the { No. and size 2 @ 7 1/2" x 4 1/2" x 10" Duplex
How driven Steam Main Bilge Line How driven Steam Automatic Control for Feeding Pumps
Ballast Pumps, No. and size 1 @ 8 1/2" x 10" Duplex Lubricating Oil Pumps, including Spare Pump, No. and size none also with direct Steam

Are two independent means arranged for circulating water through the Oil Cooler — Suctions, connected to both Main Bilge Pumps and Auxiliary
Bilge Pumps; — In Engine and Boiler Room 1 @ 2 1/4" and 2 @ 2" also 2 @ 2" in cofferdam
In Holds, &c. — 2 @ 2" in cofferdam

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 6" Independent Power Pump Direct Suctions to the Engine Room Bilges,
No. and size 1 @ 3" 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 Both 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 above

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

What Pipes pass through the bunkers none How are they protected —

What pipes pass through the deep tanks cargo pipes only 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 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 — worked from —

MAIN BOILERS, &c.—(Letter for record (S)) Total Heating Surface of Boilers 26080 sq. ft.

Is Forced Draft fitted yes No. and Description of Boilers two single ended 2SB Working Pressure 180

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes

IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? —

PLANS. Are approved plans forwarded herewith for Shafting no Main Boilers yes Auxiliary Boilers — Donkey Boilers —
(If not state date of approval)

Superheaters — General Pumping Arrangements with ship report Oil fuel Burning Piping Arrangements yes

SPARE GEAR. State the articles supplied:— As per Rules and in addition:—
one screw shaft and one set of coupling bolts for same, one bronze propeller, one
thrust shoe, one piston rod, one set of piston rings for each piston, and the
piston valve, one pair of bottom end 3 bushes, one pair of top end 3 bushes, one air
pump rod and bucket, one valve spindle, one ahead guide shoe, one eccentric
sheave and strap, one impeller for circulating pump and a full set of
spares for all auxiliaries.

The foregoing is a correct description,
For DAVID & W. HENDERSON & CO., LTD.

A. C. Paterson DIRECTOR

Manufacturer.



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008753-008758-0170

31874

During progress of work in shops - - - 1927 Jun 22-27 July 7-26 Aug 8-9-11-30 Sep 4-14-15-20-23 Oct 3-4-5-7-19-26-27-28-31 Nov 1-2-3-17
Dates of Survey while building - - - 11-8-27
During erection on board vessel - - - 11-8-27
Total No. of visits 30

Dates of Examination of principal parts - Cylinders 8-8-27 Slides 12-9-27 Covers 11-8-27
Pistons 4-9-27 Piston Rods 23-9-27 Connecting rods 23-9-27
Crank shaft 11-8-27 Thrust shaft 20-9-27 Intermediate shafts none
Tube shaft none Screw shaft 20-9-27 Propeller 20-9-27
Stern tube 20-9-27 Engine and boiler seatings 19-10-27 Engines holding down bolts 25-10-27
Completion of fitting sea connections 3-10-27
Completion of pumping arrangements 28-10-27 Boilers fixed 25-10-27 Engines tried under steam 23-11-27
Main boiler safety valves adjusted 3-11-27 Thickness of adjusting washers Port bh. P³/₈ S²³/₆₄ Stdbbh P³/₈ S³/₈ Sane
Crank shaft material J. Steel Identification Mark LLOYD'S N²687 L.C.D. 11-8-27 Thrust shaft material J. Steel Identification Mark LLOYD'S N²687 L.C.D. 20-9-27
Intermediate shafts, material none Identification Marks - Tube shaft, material none Identification Mark -
Screw shaft, material J. Steel Identification Mark LLOYD'S N²685 L.C.D. 20-9-27 Steam Pipes, material Sd. Steel Test pressure 540 Date of Test 26-10-27
Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. yes
Have the requirements of the Rules for carrying and burning oil fuel been complied with yes
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.)
The materials and workmanship are good.
The machinery has been constructed under special survey in accordance with the Rules. Satisfactorily fitted in the vessel tried under steam and found good.
It is eligible in my opinion for classification and the Records + LMC 11, 27
Fitted for oil fuel, F.P. above 150°F.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11. 27. FD. CL.
Fitted for oil fuel 11. 27. F.P. above 150°F.

Handwritten signature and date: 2/12/27

The amount of Entry Fee ... £ 39 : 15 :
Special ...
Donkey Boiler Fee ...
Travelling Expenses (if any) £ : :
When applied for, 28/11/27
When received, 14. 12. 27

S. C. Davis.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned + LMC 11, 27. FD.

Fitted for oil fuel 11, 27 F.P. above 150°F.



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