

REPORT ON OIL ENGINE MACHINERY.

No. 58157

Received at London Office

24 MAR 1937

Date of writing Report 19 30 When handed in at Local Office 3 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 6th Apr 1936 Last Survey 11th Mar 1937
 Reg. Book. Number of Visits 60

on the Single Screw vessel "SITALA" Tons {Gross 6218.03
 {Net 3602.48
 Built at Glasgow By whom built Harland & Wolff. Ltd. Yard No. 981 When built 1937
 Engines made at Glasgow By whom made Harland & Wolff. Ltd. Engine No. 981 When made 1937
 Donkey Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. 981 When made 1937
 Brake Horse Power 2800 Owners Anglo Saxon Petroleum Co. Ltd. Port belonging to London
 Nom. Horse Power as per Rule 378 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes
 Trade for which vessel is intended Oil tanker 25' 9/16 53' 1/8"

OIL ENGINES, &c.—Type of Engines Vertical int. combustion. Airless injection 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 700 lb. Diameter of cylinders 650 mm. Length of stroke 1400 mm. No. of cylinders 6 No. of cranks 6
 Mean Indicated Pressure 112 lb. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm. Is there a bearing between each crank yes
 Revolutions per minute 120 Flywheel dia. 2208.5 mm. Weight 7500 Kp. Means of ignition Compression Kind of fuel used Diesel oil
 Crank Shaft, dia. of journals as per Rule App'd. 460 mm. Crank pin dia. 460 mm. Crank Webs Mid. length breadth 750 mm. Thickness parallel to axis 267 mm.
as fitted 460 mm. (13/16" hole through shaft) Mid. length thickness shrunk Thickness around eye-hole 205 mm.
 Flywheel Shaft, diameter as per Rule App'd. 460 mm. Intermediate Shafts, diameter as per Rule App'd. 16 1/2" Thrust Shaft, diameter at collars as per Rule App'd. 15 1/2"
as fitted 460 mm. as fitted 16 1/2" as fitted 15 1/2"

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule App'd. 16" Is the tubo shaft fitted with a continuous liner yes
as fitted as fitted 16" as fitted
 Bronze Liners, thickness in way of bushes as per Rule .75" Thickness between bushes as per rule .56" Is the after end of the liner made watertight in the
as fitted 13/16" as fitted 21/32" 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 4'-10"

Propeller, dia. 14'-9" Pitch 11'-0" No. of blades 4 Material Brnze whether Moveable no Total Developed Surface 75 sq. feet
 Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when detached yes Means of lubrication
Forced Thickness of cylinder liners 46 to 25 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

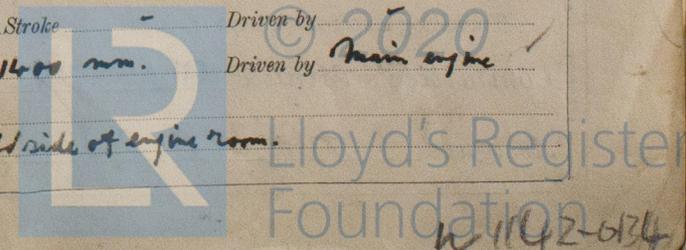
Cooling Water Pumps, No. 2 jacket cooling + 2 piston cooling. Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes
 Bilge Pumps worked from the Main Engines, No. One Diameter Rotary Stroke 35 ton Can one be overhauled while the other is at work no
 Pumps connected to the Main Bilge Line { No. and Size 1 @ 35 ton/hour | Seminary. 35 ton/hour | Cylinder cooling water pump | Steadily jacket cooling pump.
 How driven Main engine. | Main engine. | 250 ton/hour. Main engine | 200 ton/hour. Steam engine.
900. Service pump. 82/120 ton/hour. Steam engine.

Is the cooling water led to the bilges. no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
 arrangements yes
 Ballast Pumps, No. and size yes Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 3 { 1 @ 40 ton/hour.
1 @ 4 1/2 x 3 x 4"
1 @ 8 x 8 x 10 (Spare)
 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 Three @ 3", Two @ 2" In Pump Room yes
 In Holds, &c. yes

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One @ 6"
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces
 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
 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 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 yes How are they protected yes
 What 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 yes Is it fitted with a watertight door no worked from no
 If 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. 1 No. of stages 1 Diameters 120 cu ft air Stroke 350 lb per sq in Driven by 1 by steam engine
 Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 120 cu ft air Stroke 350 lb per sq in Driven by 1 " oil "
 Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 120 cu ft air Stroke 350 lb per sq in Driven by 1 " oil "
 Scavenging Air Pumps, No. 6 Diameter 650 mm. Stroke 1400 mm. Driven by Main engine

Auxiliary Engines crank shafts, diameter as per Rule App'd. 110 mm. No. One
as fitted 110 mm. Position Starboard side of engine room.
 Amsterdam Report No. 13795.



AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule. *yes* ✓
 Can the internal surfaces of the receivers be examined and cleaned. *yes* Is a drain fitted at the lowest part of each receiver. *yes* ✓
 Main Starting High Pressure Air Receivers, No. *2* Cubic capacity of each *400 cu ft.* Internal diameter *5' 0"* thickness *55/164*
 Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *28/32 tons* Working pressure by Rules *356 lb sq. in. appd.*
 Actual *356*
 Starting Air Receivers, No. *one* Total cubic capacity *75 litres* Internal diameter *250 mm.* thickness *7 mm.*
 Seamless, lap welded or riveted longitudinal joint *Seamless* Material *Steel* Range of tensile strength *44/50 K.G.* Working pressure by Rules *25 K.G.*
 Actual *356 lb sq. in.*

IS A DONKEY BOILER FITTED? *yes* ✓ If so, is a report now forwarded? *yes. Belfast Rpt No. 11828.*
 Is the donkey boiler intended to be used for domestic purposes only. *no*
PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Fuel Tanks *yes* ✓
 (If not, state date of approval)
 Donkey Boilers *yes* General Pumping Arrangements *yes* Pumping Arrangements in Machinery Space *yes*
 Oil Fuel Burning Arrangements *yes*

SPARE GEAR.
 Has the spare gear required by the Rules been supplied. *yes*
 State the principal additional spare gear supplied. *List Attached.*

The foregoing is a correct description,
FOR HARLAND AND WOLFF, LIMITED.
Wm. J. Wright. Manufacturer.

Dates of Survey while building
 During progress of work in shops-- 1936 Apr: 6, 15, 28, 30 May: 4, 13, 22, 28 June: 3, 4, 5, 9, 11, 12, 17, 18, 31 Aug: 17, 25, 31 Sep: 16, 30
 During erection on board vessel-- Oct: 19, 23, 26, 29 Nov: 2, 4, 6, 10, 11, 12, 24, 27 Dec: 1, 7, 9, 14, 18, 30 (1937) Jan: 13, 18, 26
 Total No. of visits *60-28* Feb: 1, 4, 10, 11, 19, 23, 24, 25, 26 Mar: 1, 2, 4, 5, 8, 10, 11
 6-11-36 6-11-36 11-11-36

Dates of Examination of principal parts—Cylinders 10-11-36 Covers 10-11-36 Pistons 12-11-36 Rods 24-11-36 Connecting rods 27-11-36
 Crank shaft 25-8-36 Flywheel shaft - Thrust shaft 15-4-36 Intermediate shafts 10-11-36 Tube shaft ✓
 Screw shaft 10-11-36 Propeller 17-6-36 Stern tube 1-12-36 Engine seatings 18-12-36 Engines holding down bolts 1-2-37
 Completion of fitting sea connections 18-12-36 Completion of pumping arrangements 4-3-37 Engines tried under working conditions 11-3-37
 Crank shaft, Material *Steel* Identification Mark *328 P.7 test hr.* Flywheel shaft, Material - Identification Mark -
 Thrust shaft, Material *Steel* Identification Mark *330 P.7 + test hr.* Intermediate shafts, Material *Steel* Identification Marks *330 P.7 + test hr.*
 Tube shaft, Material ✓ Identification Mark - Screw shaft, Material *Steel* Identification Mark *330 P.7 + test hr.*

Is the flash point of the oil to be used over 150° F. *yes* ✓
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes* ✓
 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 ✓
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with -
 Is this machinery duplicate of a previous case *yes* If so, state name of vessel *MV 'STANDELLA' Glasgow Rpt 56890.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery of this vessel has been built under Special Survey and in accordance with the approved plans and the Rules of this Society.
 The materials and workmanship are good.
 The machinery has been efficiently secured in position on board the vessel and afterwards tried under full working conditions with satisfactory results.
 Auxiliary oil engine by Ruston & Hornsby Ltd. No 178296, Grimsby Report No. 19693, driving air compressor satisfactorily fitted on board.
 The machinery is eligible in my opinion to be classed in the Register Book with notation of + L.M.C. 3.37 C.L. I.D.B. W.P. 180 lbs.
20/3/37

The amount of Entry Fee	£ 5 : -	When applied for,	
Special	£ 81 : 14	18.3.	1937.
Donkey Boiler Fee	£ :	When received,	
Travelling Expenses (if any)	£ :	7.4	1937.

Committee's Minute **GLASGOW** 23 MAR 1937
 Assigned + L.M.C. 3,37
 I.D.B.-180lb.

P. Fitzgerald, *W. H. Anderson*
 Engineer Surveyor to Lloyd's Register of Shipping.



GLASGOW

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