

REPORT ON OIL ENGINE MACHINERY.

No 34766

22 OCT 1947

23 OCT 1947

Date of writing Report

When handed in at Local Office 15 October 1947

Port of

Received at London Office

Sunderland.

No. in Survey held at
Reg. Book.

Date, First Survey 25th September 1946 Last Survey 14th October 1947

Number of Visits 85

Single
on the ~~Triple~~ Screw vessel
Quadruple

PELAYO

Tons Gross 2578.77
Net 1001.96

Built at Sunderland

By whom built Wm Leaford & Sons Ld.

Yard No. 444 When built 1944.

Engines made at Sunderland

By whom made Wm Leaford & Sons Ld.

Engine No. 744 When made 1944.

Donkey Boilers made at Annan.

By whom made Cochran & Co (Annan) Ld.

Boiler No. 16892 When made

Brake Horse Power 4100

Owners MacAndrews & Co Ld.

Port belonging to London

Nom. Horse Power as per Rule 866

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted Ys.

Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines Opposed piston Airless injection 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 640 lbs. Diameter of cylinders 600 mm Length of stroke 1160 mm No. of cylinders 5 No. of cranks 5 (3 throws)

Mean Indicated Pressure 88 lbs. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 940 mm Is there a bearing between each crank? Between each triple throw.

Revolutions per minute 122 Flywheel dia. 2200 mm Weight 2 tons Medus of ignition Temperature Kind of fuel used -

Crank Shaft, Solid forged as per Rule 431.5 mm Crank pin dia. 450 mm Crank Webs Mid. length breadth 650 mm Thickness parallel to axis 255 mm

Flywheel Shaft, diameter as per Rule 431.5 mm Intermediate Shafts, diameter as per Rule 350 mm Thrust Shaft, diameter at collars as per Rule 431.5 mm

Tube Shaft, diameter as per Rule 392 mm Is the tube shaft fitted with a continuous liner Ys.

Bronze Liners, thickness in way of bushes as per Rule 21.5 mm Thickness between bushes as per Rule 16.45 mm Is the after end of the liner made watertight in the propeller boss Ys.

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner one length.

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 Ys.

If so, state type - Length of Bearing in Stern Bush next to and supporting propeller 4'-9"

Propeller, dia. 15'-2" Pitch 14'-3 1/2" g. of blades 4 Material Bronze whether Moveable Ys. Total Developed Surface 89.1 sq. feet

Method of reversing Engines Hand lever Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Ys. Means of lubrication forced

Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves Ys. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Ys.

Cooling Water Pumps, No. Two (Electric driven) Is the sea suction provided with an efficient strainer which can be cleared within the vessel (F.M. Carlson)

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

Pumps connected to the Main Bilge Line No. and Size Two 6" x 6" (Duplex) Electric motor.

Is the cooling water led to the bilges Ys. If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements -

Ballast Pumps, No. and size 1 Rotary Centrifugal 250 l/min. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2-40 l/min. Electric

Are two independent means arranged for circulating water through the Oil Cooler Ys. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size: In Machinery Spaces 4 @ 3 1/2" E.R. 1 @ 2 1/2" - Tunnel well. In Pump Room -

In Holds, &c. N°1. 3" φ r.s. N°2. 3" φ r.s. N°3. 2 1/2" φ r.s. N°4. 2 1/2" φ r.s. + 1 @ 2 1/2" well at aft end.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 8" (Ballast Pump) 1-6" (Bilge Pump, E.R.)

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Ys. 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 Ys.

Are all Sea Connections fitted direct on the skin of the ship Ys. 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 Ys. 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 Ys. Are the Blow Off Cocks fitted with a spigot and brass covering plate Ys.

What pipes pass through the bunkers none How are they protected -

What pipes pass through the deep tanks none 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 Ys.

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 Ys. Is the Shaft Tunnel watertight Ys. Is it fitted with a watertight door Ys. worked from E.R. to Frating

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork - Electric motor

Main Air Compressors, No. Two No. of stages 3 Diameters 11 1/2" - 2 3/4", 11 1/2" - 9 1/4", 2 3/4" 4" Driven by Steam 4 1/2" x 4"

Auxiliary Air Compressors, No. One No. of stages 2 Diameters 6" - 1 1/2", 2 1/4" Stroke 4 1/2" Driven by

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

What provision is made for first Charging the Air Receivers Steam driven Compressor.

Scavenging Air Pumps, No. One Diameter 1550 mm Stroke 1200 mm Driven by Main Engine Crankshaft

Auxiliary Engines crank shafts, diameter as per Rule Ys. Position Int. Side of E.R. (in line with shaft)

Have the Auxiliary Engines been constructed under special survey Ys. Is a report sent herewith Ys. (Con. Rpt. 1/4/404).

AIR RECEIVERS: — Have they been made under survey

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Injection Air Receivers, No.

Cubic capacity of each

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

by Rules

Actual

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure

by Rules

Actual

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafing

(If not, state date of approval)

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

1 Cylinder liner & packer complete, 1 main piston head & 24 rings, 2 (each) side & centre top & butt. 2nd bearing belt & units, 2 main bearing slides & units, 6 fuel valves complete, 1 N.A. air starting valve & 1 gl. relief valve complete, 8 sea pump pump 1/2 discs, 4 fuel pump bodies with sea valves, 1 set of chambers, valves, sleeves & tappets, main water & H.H.O., 1 set coupling belt & units, 1 set thrust pad, 3 pads for int. & ext. shaft bearings, 10 rubber hoses for piston cooling service, 1 C.I. propeller, 1 screw shaft, 6 links roller chain for camshaft drive, spherical bearing for side & cent. conn rod butt ends & main bearing

The foregoing is a correct description of the machinery described.

WILLIAM DOXFORD & SONS, LIMITED.

Manufacturer.

Director.

Dates of Survey while building
During progress of work in shops: 1946 Sep 25, 27 Oct 2, 3, 4, 19, 15, 21 Nov 1, 6 Dec 18, 19, 20, 24, 30, 31
During erection on board vessel: 1947 Jan 6, 8, 10, 17, 20, 30 Feb 3, 4, 5, 12, 14, 18, 19, 20, 24, 27 Mar 4, 6, 7, 11, 12, 14, 17, 18, 19, 20, 26, 27, 31 Apr 1, 3, 8, 9, 10, 11, 14, 15, 16, 17, 18, 25, 28, 29 May 1, 6, 7, 8, 16, 20, 21, 22 Jun 2, 3, 5, 6, 9, 10, 11, 12 Jul 10, 24, 25 Sep 12, 17, 23 Oct 2, 6, 14
Total No. of visits 85

Dates of Examination of principal parts—Cylinders 18/12/46, 20/12/46, 24/12/46 Pistons 20/5/47 Rods 20/5/47 Connecting rods 24/3/47

Crank shaft 11/4/47 Flywheel shaft as crank Thrust shaft as crank Intermediate shafts 25/4/47 Tube shaft —

Screw shaft 4/5/47 Propeller 15/4/47 Stern tube 20/12/46 & 30/12/46 Engine seatings (Tank top) Engines holding down bolts 12/9/47

Completion of fitting sea connections 30/12/46 Completion of pumping arrangements 6/10/47 Engines tried under working conditions 14/10/47

Crank shaft, Material Ingot Steel Identification Mark N° 44 N.H.F. 11/4/47 Flywheel shaft, Material as crank Identification Mark as crank

Thrust shaft, Material as crank Identification Mark as crank Intermediate shafts, Material Ingot Steel Identification Marks N° 15834-638/9/47

Tube shaft, Material — Identification Mark — Screw shaft, Material Ingot Steel Identification Marks 641/2/3 N.H.F. 25/4/47

Identification Marks on Air Receivers K. 1948/9. L.R. 22404 A.R.S. 3/4/47

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.

Description of fire extinguishing apparatus fitted 1 1/2" h. 1. perforated pipe for steam led around E.H. 8-2 full. Foamite Cont. unind.

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No. 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 not desired.

Is this machinery duplicate of a previous case Yes. If so, state name of vessel "PINTO" (Std. Rpt. 34448).

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under

Special Survey in accordance with the approved plans & the rules of the Society. The materials & workmanship are good. It has been securely fitted

on board the vessel & tried under working conditions at sea with satisfactory results. The donkey boiler has also been securely fixed on board, fitted to

burn oil fuel (F.P. above 150° F.) & safety valves adjusted under steam to

working pressure. Section 20 of the rules has been complied with.

The machinery is eligible in my opinion to have notation

as L.M.C. 10.47 (oil Eng.), T.S. (C2) 1 D.B. 100 lbs.

The amount of Entry Fee .. £ : : When applied for,

Special ... £ 161 : 12 : OCT 21 1947

Donkey/Boiler Fee .. £ 19 : - : When received,

Travelling Expenses (if any) £ : : 19

Committee's Minute

Assigned + L.M.C. 10.47 Oil Eng. O.L. D.B. 100 lbs.

Signature of Engineer

Engineer Surveyor to Lloyd's Register of Shipping.

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Lloyd's Register

Foundation