

REPORT ON OIL ENGINE MACHINERY.

No. 10,483

Received at London Office 13 OCT 1930

Date of writing Report

19

When handed in at Local Office

10th Oct

1930

Port of

Belfast.

in Survey held at

Belfast.

Date, First Survey 5th July 1929Last Survey 29th Sept 1930

Book

Number of Visits 96

on the ^{Single} Twin ^{Triple} Screw vessel

"TWEEDBANK"

Tons { Gross 5630.
Net 3440.

uilt at Belfast.

By whom built Workman, Clark (1928) Ltd.

Yard No. 513. When built 1930.

Engines made at Belfast.

By whom made Workman, Clark (1928) Ltd.

Engine No. 513. When made 1930.

Monkey Boilers made at Belfast.

By whom made Workman, Clark (1928) Ltd.

Boiler No. 513. When made 1930.

Horse Power

Owners Bank Line Ltd.

Port belonging to Belfast.

Horse Power as per Rule 1246.

Is Refrigerating Machinery fitted for cargo purposes Yes.

Is Electric Light fitted Yes.

Trade for which vessel is intended Ocean going.

ENGINES, &c.—Type of Engines Sultzer - diesel. 2 or 4 stroke cycle 2 Single or double acting Single.

Maximum pressure in cylinders 500 lbs. Diameter of cylinders 680 mm. Length of stroke 1200 mm. No. of cylinders 10. No. of cranks 10.

No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 880 mm. Is there a bearing between each crank Yes.

Revolutions per minute 100. Flywheel dia. 7'-3". Weight 14 tons. Means of ignition Compression. Kind of fuel used Diesel oil.

Crank Shaft, dia. of journals as per Rule 436 mm. Crank pin dia. 1460 mm. Crank Webs Mid. length breadth Semi built. Thickness parallel to axis 240 mm.

as fitted 460 mm. M.d. length thickness 290 mm. shrunk Thickness around eye hole 209 mm.

Wheel Shaft, diameter as per Rule 436 mm. Intermediate Shafts, diameter as fitted 12 5/8". Thrust Shaft, diameter at collars as per Rule 436 mm.

as fitted 460 mm. as fitted 12 3/8". as fitted 460 mm.

Screw Shaft, diameter as per Rule 13.8". Is the shaft fitted with a continuous liner Yes.

as fitted 14.5". as per rule 35". as fitted 32".

Bronze Liners, thickness in way of bushes as per Rule 23". Thickness between bushes as per rule 35". Is the after end of the liner made watertight in the

as fitted 3". If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes.

as fitted 4". Is 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.

No. If so, state type Is an approved Oil Gland or other appliance fitted at the after end of the tube

Propeller, dia. 14'-9" Pitch 14'-9" No. of blades 4 Material Bronze. whether Moveable No. Total Developed Surface 75' sq. feet

Method of reversing Engines Hand reversing. Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes. Means of lubrication

Fixed. Thickness of cylinder liners Top 53 mm. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with

conducting material Yes. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Yes.

Sling Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes.

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

Pumps connected to the Main Bilge Line No. and Size 1-200 ltr/hr centrif. 1-100 ltr/hr 8"x8" Duplex. How driven 24/26 HP motor. 16 HP motor (Electric).

Fast Pumps, No. and size 1-200 ltr/hr centrif. Lubricating Oil Pumps, including Spare Pump, No. and size 1 working 45 ltr/hr at 30000. 1 spare 5 " " 350 ltr/hr.

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" (2-2 1/2" to transfer pump). 1-2 1/2" to tunnel well.

Holds, &c. 2-3" No 1 hold. 2-3 1/2" No 2 hold. 2-3" deep tank. 2-3" No 4 hold. 2-3" No 5 hold.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-6" & 1-7"

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.

all Sea Connections fitted direct on the skin of the ship Yes. Are they fitted with Valves or Cocks Yes.

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.

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.

at pipes pass through the bunkers None. How are they protected Yes.

at pipes pass through the deep tanks Bilge pipes only. Have they been tested as per Rule Yes.

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes.

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

partment to another Yes. Is the Shaft Tunnel watertight Yes. Is it fitted with a watertight door Yes. worked from Upper Deck.

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Yes.

in Air Compressors, No. Two. No. of stages three. Diameters 12" 570/480. Stroke 600. Driven by Main engines.

Auxiliary Air Compressors, No. One. No. of stages three. Diameters 12" 570/480. Stroke 600. Driven by Electric motor.

all Auxiliary Air Compressors, No. One. No. of stages two. Diameters 20" " " Stroke " " " Driven by Steam.

Exhausting Air Pumps, No. Two. Diameter 1400 mm. Stroke 620 mm. Driven by Main engines.

Auxiliary Engines crank shafts, diameter as per Rule 148.5 mm. as fitted 160 mm.

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes.

the internal surfaces of the receivers be examined Yes. What means are provided for cleaning their inner surfaces open ends or manholes.

Is there a drain arrangement fitted at the lowest part of each receiver Yes.

High Pressure Air Receivers, No. 10. Cubic capacity of each 2-150 litres. Internal diameter 300 mm. Thickness 16 mm.

Material Steel. Range of tensile strength 26/30 tons. Working pressure by Rules 1580 lbs.

Total cubic capacity 560 cu ft. Internal diameter 5'-0". Thickness 16 mm.

Starting Air Receivers, No. 2. Material Steel. Range of tensile strength 28/32 tons. Working pressure by Rules 436 lbs.

Is there a drain arrangement fitted at the lowest part of each receiver Yes.

005181-003190-02ah

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting
(If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR

- 1 set cover complete with all valves, valve casings, springs & other fittings.
- 1 complete set of valves for one cyl with their springs & other fittings.
- 5 full needle valves.
- 1 piston complete with all rings, studs & nuts.
- 1 set piston rings for one piston.
- Telescopic cooling pipes for one piston.
- 1 set wheels for the cam shaft drive of one engine.
- 1 set of studs & nuts for one cylinder cover of each design.
- 2 crankhead bearing bolts & nuts.
- 2 crankpin bearing bolts & nuts.
- 2 main bearing bolts & nuts.
- 1 set bolts for one crankshaft coupling.
- 1 set bolts for one intermediate shaft coupling.

For main engine air compressor & pumps.

- 1 set piston rings for one piston of each size used, in the air compressor.
- 1 full set of suction & delivery valves.
- 1 set of " " " " for scavenge air pumps.
- all working parts for one fuel pump.
- one water circulating pump fitted & connected ready for use.

Auxiliary pumps.

- 1- suction & one delivery valve for daily fuel supply.
- 1- quantity of assorted bolts & nuts.
- a length of pipe of each size used for the fuel delivery and injection air pipes to the main & aux power cyls and the air delivery from the main & auxiliary compressors to the receivers, with unions and flanges suitable for each.

The foregoing is a correct description,
pro WORKMAN CLARK (1928) LIMITED,

J. Cunningham

Secretary.

Manufacturer.

Dates of Survey while building	During progress of work in shops--	1929 July 5, 9 Aug 2, 7, 9, 14, 19, 21, 23 Sept 5, 19 Oct 1, 8, 11, 18, 25, 28 Nov 1, 4, 12, 13, 15, 22, 24 Dec 2, 3, 19, 30, 31
	During erection on board vessel--	Jan 13, 16, 21 Feb 5, 11, 17, 25, 28 Mar 6, 21, 27 Apr 7, 9, 10, 11, 18, 25 May 1, 5, 6, 8, 14, 16, 19, 20, 21, 22, 27, 28 June 3, 12, 13, 16, 18, 19, 20, 23, 24, 26, 27, 30 July 1, 4, 9, 22, 24, 29, 30 Aug 3, 5, 9, 12, 15, 18, 21, 26, 27, 28 Sept 4, 8, 11, 24, 25, 26, 29
	Total No. of visits	96

Dates of Examination of principal parts—Cylinders 14/5/30. Covers 14/5/30. Pistons 21/3/30. Rods 21/3/30. Connecting rods 16/12/29

Crank shaft 20/5/30. Flywheel shaft 19/5/30. Thrust shaft 20/5/30. Intermediate shafts 29/7/30. Tube shaft 12/8/30.

Screw shaft 16/5/30. Propellers 16/5/30. Stern tube 6/5/30. Engine seatings 18/8/30. Engines holding down bolts 18/8/30.

Completion of fitting sea connections 19/9/30. Completion of pumping arrangements 18/9/30. Engines tried under working conditions 29/9/30.

Crank shaft, Material Steel. Identification Mark J.K.W. 19/9/30. Flywheel shaft, Material Steel. Identification Mark J.K.W. 20/9/30.

Thrust shaft, Material Steel. Identification Mark J.K.W. 19/9/30. Intermediate shafts, Material Steel. Identification Mark J.K.W. 19/9/30.

Tube shaft, Material Steel. Identification Mark J.K.W. 20/5/30. Screw shaft, Material Steel. Identification Mark J.K.W. 20/5/30.

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 Bean oil. If so, have the requirements of the Rules been complied with Yes.

Is this machinery duplicate of a previous case Yes. If so, state name of vessel Saybank.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been constructed under special survey. The materials and workmanship are sound and good. The main engines and auxiliaries have been tried out under working conditions at moored and sea trials with satisfactory results. In my opinion, the vessel is now eligible for notation in the Society's Register Book + LMC 9,30. CL. Donkey boiler pressure 120 lbs. Fitted for oil fuel 9,30. FP above 150° F. Electric light.

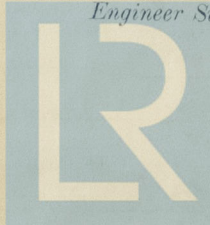
It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9.30. C.L.

Oil Engines 2 S.C.S.A. 10cy. 26 3/4" - 47 1/4" NHP. 1246 DB. 120 lb.

14/10/30.

John K. Williams

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

The amount of Entry Fee ... £ 6 : 0 : When applied for, Special ... £ 131 : 3 : 10 October 1930 Donkey Boiler Fee ... £ 6 : 6 : When received, Travelling Expenses (if any) £ : : 16.10.1930

Committee's Minute FRI. 17 OCT 1930

Assigned L.M.C. 9.30 C.L. Oil Eng. DB. 120 lb.

CERTIFICATE WRITTEN

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