

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 316b.

Received at London Office

21 MAY 1949

Date of writing Report 20-4-1949 When handed in at Local Office 19 Port of Groningen.

No. in Survey held at Foxhol Date, First Survey 1-3-48 Last Survey 20-4-1949

Reg. Book. Single on the Twin Triple Quadruple Screw vessel Motortrawler "PARCO" Number of Visits 26

Built at Foxhol By whom built N.V. Schw. "Foxhol" v. h. Gebr. Muller Yard No. 84 When built 1949

Engines made at Winterthur By whom made Sulzer Bros. Ltd. Engine No. 25949 When made 1948

Donkey Boilers made at - By whom made - Boiler No. - When made -

Brake Horse Power 450 Owners "Arrasto" Cia. de Pesca do Centro de Portugal Port belonging to Figueira da Foz

Indicated Horse Power as per Rule 94 = MN Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted yes

Trade for which vessel is intended sea fishing

**IL ENGINES, &c.**—Type of Engines Sulzer Solid injection, 6 t.w. 24.2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 850 lbs. Diameter of cylinders 240 mm. Length of stroke 400 mm. No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 80 lbs. Span of bearings, adjacent to the crank, measured from inner edge to inner edge 290 mm. Is there a bearing between each crank yes

Revolutions per minute Prop. 200 Flywheel dia. 775 mm. Weight 673 kg. Means of ignition compression Kind of fuel used heavy oil.

Crank shaft, (Solid forged) dia. of journals as per Rule, appr. 10-3-47. Crank pin dia. 155 mm. Crank webs Mid. length breadth 265 mm. Thickness parallel to axis -

Thrust Shaft, diameter at collars as fitted, 160 mm.

Intermediate Shafts, diameter as fitted, 176 mm. Is the tube shaft fitted with a continuous liner no

Screw Shaft, diameter as fitted, 176 mm. Is the tube shaft fitted with a continuous liner no

Conze Liners, thickness in way of bushes as per Rule, 17 mm. Thickness between bushes as fitted, 17 mm. Is the after end of the liner made watertight in the propeller boss -

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

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 tube shaft yes If so, state type (hollow, radial thickness 7 mm.) pressing rubber ring. Length of bearing in Stern Bush next to and supporting propeller 720 mm.

Propeller, dia. 2300 mm Pitch 1582 mm No. of blades 4 Material bronze whether moveable no Total developed surface - sq. feet

Method of reversing Engines Hydr. reverse reduction gear. Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of regulation forced Thickness of cylinder liners 17 mm. Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled

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 funnel Cooling Water Pumps, No. 2 1 D.A. attached. 80 mm. dia. x 90 mm. stroke. 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. 1 D.A. 1 Rotary indep. cap. 30 T/H. Diameter 80 mm. Stroke 90 mm. Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line (No. and size (2) 1 attached and 1 Rotary cap. 30 T/H. By main engine and by aux. eng. S.B.

How driven no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements -

Fast Pumps, No. and size 1 Rotary cap. 30 T/H. Power Driven Lubricating Oil Pumps, including spare pump, No. and size (1 attached cap. 8.9 M<sup>3</sup>/H, 2 (1 Rotary cap. 9 T/H.

Two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size:—In machinery spaces (2 à 2 1/2" and 2 à 2" flange 182" In pump room -

Holds, &c. 2 à 2" fwd. 2 à 2" aft. 1 à 2" cofferdam. 1 à 2" pipetunnel.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 à 2 1/2".

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes yes Are the bilge suction 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 fabr. chests Are they fitted with valves or cocks valves. Are they fixed

Are they 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 -

Do pipes pass through the bunkers F.O. pipeline to forepeak. How are they protected seamless steel tube.

Do pipes pass through the deep tanks - 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 Mchy. 21-1-47 Is it fitted with a watertight door - worked from -

Are all wood vessels, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork -

Main Air Compressors, No. - No. of stages - diameters - stroke - driven by -

Auxiliary Air Compressors, No. 1 No. of stages 1 diameters 55 mm. stroke 170.5 mm. driven by main eng. lever.

All Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 22.8 M<sup>3</sup>/H stroke - driven by aux. oil eng.

Is provision made for first charging the air receivers aut. oil engine started up by hand.

21. Evenging Air Pumps, No. 6 D.A. diameter 310 mm. stroke 170.5 mm. driven by main eng. lever.

22. Auxiliary Engines crank shafts, diameter as per Rule, appr. 20-11-47. No. two. Position Portside and starboard.

Are the auxiliary engines been constructed under special survey yes, one à 100 HP No. 607 Is a report sent herewith yes.

one 2-cyl. 4-str. type R.F.S. 2 Heavy oil eng. 20HP No. 6692. Makers: Ailsa Craig Ricardo. Chiswick.

208609-008678-0123



AIR RECEIVERS:—Have they been made under survey ☒ yes. State No. of report or certificate Ganoo No. 93/3.  
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.  
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 -  
Starting Air Receivers, No. 2 Total cubic capacity 492 litres Internal diameter 401 mm. thickness 9 mm.  
Seamless, lap welded or riveted longitudinal joint seamless Material M. Steel Range of tensile strength 60/66 Working pressure 40 Ats.  
IS A DONKEY BOILER FITTED ☒ no. 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 shafting 29-12-47 Receivers 25-8-47 Separate fuel tanks 23-  
(If not, state date of approval)  
Donkey boilers - General pumping arrangements 7-1-48 Pumping arrangements in machinery space 2-3-48  
Oil fuel buring arrangements -

### SPARE GEAR.

Has the spare gear required by the Rules been supplied ☒ yes

State the principal additional spare gear supplied -

*Torsionals approved 19/5/48 for engine in use of 1100 ft.  
+ a range of heavy speeds of 185 to 189 ft. with  
banded speed range of 130 to 160 ft.*

The foregoing is a correct description,

and the particulars of the installation are as approved for  
Manufacturer. torsional vibration characteristics.

Dates of Survey while building  
During progress of work in shops - 17 visits.  
During erection on board vessel - 1948. March 1, 11, 16; July 14; Aug. 19; Sep. 15; Oct. 27; Nov. 2, 10; Dec. 22;  
1949. Jan. 6, 13, 20, 25, 28, 31; Feb. 1, 2, 3, 9, 11, 14, 16, 17, 21. April 20.  
Total No. of visits 43.

Dates of examination of principal parts—Cylinders 29-7-47 Covers 3-9-47 Pistons 3-9-47 Rods 14-10-47 Connecting rods -  
Crank shaft 27-9-47 Flywheel shaft - Thrust shaft 14-10-47 Intermediate shafts - Tube shaft -  
Screw shaft 12-3-48 Propeller 13-1-48 Stern tube 16-2-48 Engine seatings 16-3-48 Engine holding down bolts 2-2-49  
Completion of fitting sea connections 16-3-48 Completion of pumping arrangements 2-2-49 Engines tried under working conditions 2-2-49  
Crank shaft, material S.M. Steel Identification mark No. 12230 Flywheel shaft, material - Identification mark -  
Thrust shaft, material S.M. Steel Identification mark 6555 Intermediate shafts, material - Identification marks -  
Tube shaft, material - Identification mark - Screw shaft, material S.M. Steel Identification mark No. 415 G.V.  
Identification marks on air receivers Port: 1-79115 Lloyd's test T.P. 80 Ats. Lloyd's test T.P. 80 Ats.  
W.P. 40 Ats. G.M. 17-7-47. W.P. 40 Ats. G.M. 17-7-47.

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 2 Foamite 2-gallons apparatus in engine room.

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 ☒ no. If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed and fitted on board under Special Survey, in accordance with the requirements of the Society's Rules and the Secretary's letters, and the approved plans. Torsional vibration characteristics approved 10-12-47, and 29-12-47, and 19-5-48. (Notice board near the control stations is fitted in accordance with letter). A 20 H.P. aux. oil engine built under Special Survey, could not be delivered in time. A 20 H.P. A.G.R. aux. oil eng. (No. 6692. 2-cyl. 4-str. type R.F.S. 2.), not built under Special Survey is now fitted on board with the Owners' consent. Engine opened up, examined and tested as required. Brinell hardness tests taken from the crankshaft with satisfactory results. The machinery has been examined under full working conditions during trial trip and found in good working and manouevring order, and may merit in my opinion to be classed in the Society's Register Book with the record of LMC 4.49 Oil Engine and O.G. 4.49.

The amount of Entry Fee ... £ Paid 10/3/49.

Special ... £ 176.-- When applied for 23-2-19 49.

Donkey Boiler Fee... £ - When received 19

Travelling Expenses (if any) £ F1.72

Additional trav. exp. F1.11.5 applied for 17-5-49.

Committee's Minute

Assigned + LMC 4.49 Oil Eng. Subject

FRI. 3 JUN 1949

Lloyd's Register Foundation