

## REPORT ON OIL ENGINE MACHINERY.

No. 154790

AUG 1934

Received at London Office

Date of writing Report 19... When handed in at Local Office 24.7.1934 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 22nd Nov Last Survey 11th July 1934  
 Reg. Book. Number of Visits 42

Single  
 on the Twin } Screw vessel *Miss Workman Clark's yard No. 524. 534*  
 Triple }  
 Quadruple } Tons { Gross  
 Net

Built at By whom built Yard No. When built  
 Engines made at Glasgow By whom made *British Auxiliary Ltd* Engine No. 171/173 When made 1934.  
 Donkey Boilers made at By whom made Boiler No. When made  
 Brake Horse Power 32450 each h.p. Owners Port belonging to  
 Nom. Horse Power as per Rule 386. Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
 Trade for which vessel is intended

Oil ENGINES, &c. Type of Engines *British Polar* 2 or 4 stroke cycle 2 Single or double acting *Single*

Maximum pressure in cylinders 100 lb/sq. in. Diameter of cylinders 250 mm Length of stroke 420 mm No. of cylinders 6 No. of cranks 6  
 Mean Indicated Pressure 95

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 360 mm Is there a bearing between each crank *Yes*  
 Revolutions per minute 340 Flywheel dia. 1050 mm Weight 694 lbs Means of ignition *Cmp.* Kind of fuel used *Drill oil*

Crank Shaft, dia. of journals as per Rule 158 mm as fitted 160 mm Crank pin dia. 160 mm Crank Webs Mid. length breadth 214 mm Mid. length thickness 90 mm Thickness parallel to axis shrunk Thickness around eye-hole

Flywheel Shaft, diameter as per Rule 158 mm as fitted 160 mm Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the { tube } shaft fitted with a continuous liner { screw }

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per rule as fitted 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

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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

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

*Free* Thickness of cylinder liners 195 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

Cooling Water Pumps, No. 12 120 mm x 60 mm each h.p. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

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 } How driven

Is the cooling water led to the bilges 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 Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces In Pump Room

In Holds, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

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

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers How are they protected

What 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

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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

If a wood vessel, 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. No. of stages Diameters Stroke Driven by

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

Scavenging Air Pumps, No. *One DA* Diameter 120 mm Stroke 240 mm Driven by *Main E.*

Auxiliary Engines crank shafts, diameter as per Rule as fitted



**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Y/s*

Can the internal surfaces of the receivers be examined and cleaned *Y/s*

Is a drain fitted at the lowest part of each receiver *Y/s*

High Pressure Air Receivers, No. *One*

Cubic capacity of each *3.5 ft*

Internal diameter *14.5"*

thickness *1"*

Seamless, lap welded or riveted longitudinal joint *Seamless*

Material *S*

Range of tensile strength *25-32 tons*

Working pressure

by Rules *930*

Actual *450*

Starting Air Receivers, No. *See above*

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint *See above*

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 Shafting

(If not, state date of approval)

*Y. H. 33*

Receivers

*29/10/31*

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

### SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description,

**BRITISH AUXILIARIES LTD.**

Manufacturer.

Dates of Survey while building  
During progress of work in shops: *1933 Nov: 22-28 Dec: 1-6 (1934) Jan: 9-11-16-23-29-31 Feb: 6-8-12-16-26 Mar: 6-15*  
During erection on board vessel: *Apr: 5-25 May: 2-8-10-16-17-18-23-31 June: 5-7-8-11-14-18-22-27 July: 2-3-5-6-7-10-11*  
Total No. of visits *42*

Dates of Examination of principal parts—Cylinders *22-6-34* Covers *22-6-34* Pistons *18-6-34* Rods *8-6-34*

Crank shaft *2-5-34* Flywheel shaft

Thrust shaft

Intermediate shafts

Tube shaft

Screw shaft

Propeller

Stern tube

Engine seatings

Engines holding down bolts

Completion of fitting sea connections

Completion of pumping arrangements

Engines tried under working conditions

Crank shaft, Material *See List*

Identification Mark *9120-919-941*

Flywheel shaft, Material

Identification Mark

Thrust shaft, Material

Identification Mark *3912-3947-4019*

Intermediate shafts, Material

Identification Marks

Tube shaft, Material

Identification Mark

Screw shaft, Material

Identification Mark

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

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 *Y/s*

If so, state name of vessel

*British Auxiliaries 168-70*

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

*These Auxiliary Engines have been built under special licence and in accordance with the Rules. The materials & workmanship are good. On completion they have been run on the bench at full power with satisfactory results.*

*The engines have been forwarded to Belfast for fitting on board.*

*The Auxiliary engines have been efficiently installed on board the vessel in the wings of the main engine room. They have been tried out under working conditions with satisfactory results. The vessel is eligible in my opinion for Classification in the Society's Register Book.*

The amount of Entry Fee .. £ :

Special ... £ *38* : *12*

Donkey Boiler Fee ... £ :

Travelling Expenses (if any) £ :

When applied for,

*31 JUL 1934*

When received,

*8 Oct 1934*

Committee's Minute *GLASGOW 31 JUL 1934*

Assigned Deferred

Engineer Surveyor to Lloyd's Register of Shipping.

*TUE 20 NOV 1934*

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