

## REPORT ON OIL ENGINE MACHINERY.

Lpe 2. E. Rpt No 122254.

No. 67440

Received at London Office 12 AUG 1943

Date of writing Report

When handed in at Local Office

7. 8. 1943 Port of

Glasgow.

Date, First Survey

7th May 1943

Last Survey

6th Aug. 1943.

Number of Visits

No. in Survey held at  
Reg. Book.Single  
Twin  
Triple  
Quadruple  
Screw vessel

EMPIRE TABLEY

Tons

Gross

Net

Built at

Northwich

By whom built

Messrs Isaac Pimblott &amp; Co Ltd

Yard No.

When built 1943.

Engines made at

Glasgow.

By whom made

Messrs British Auxiliary

Engine No. 161

When made 1943.

Donkey Boilers made at

By whom made

Boiler No.

When made

Brake Horse Power

560

Owners

Port belonging to

Nom. Horse Power as per Rule

101

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &amp;c. Type of Engines

Heavy Oil Type M46I 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders

782 lb per sq in

Diameter of cylinders

250 7/8

Length of stroke

420 7/8

No. of cylinders

6

No. of cranks

6

Mean Indicated Pressure

96.7

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

366 7/8

Is there a bearing between each crank

Yes

Revolutions per minute

375

Flywheel dia.

900 7/8

Weight

369 Hgs.

Means of ignition Compression

Kind of fuel used Diesel

Crank Shaft, { Solid forged  
Semi built  
All built

dia. of journals

as per Rule 158 7/8  
as fitted 170 7/8

Crank pin dia.

170 7/8

Crank Webs

Mid. length breadth 226 3/4  
Mid. length thickness 95 7/8

Thrust Shaft, diameter at collars

as per Rule 119 7/8  
as fitted 205 7/8

Flywheel Shaft, diameter

as per Rule 158 7/8  
as fitted 170 7/8

Intermediate Shafts, diameter

as per Rule 113 7/8  
as fitted

Tube Shaft, diameter

as per Rule  
as fitted

Screw Shaft, diameter

as per Rule  
as fittedIs the { tube  
screw }

shaft fitted with a continuous liner {

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

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

Direct

Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes

Means of lubrication

Forced

Thickness of cylinder liners

19.5 7/8

Are the cylinders fitted with safety valves Yes

Are the exhaust pipes and silencers water cooled or lagged with

non-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

Cooling Water Pumps, No.

One 110 7/8 x 60 7/8

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No.

One

Diameter

110 7/8

Stroke

60 7/8

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

2 off each 25 7/5 gallons per Hour

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, &amp;c.

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

Are the Bilge Suctions in the Machinery Spaces

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

Are they fitted with Valves or Cocks

Are all Sea Connections fitted direct on the skin of the ship

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates

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

How are they protected

Have they been tested as per Rule

What pipes pass through the bunkers

What pipes pass through the deep tanks

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.

One

No. of stages

2

Diameters

140 7/8 - 55 7/8

Stroke

240 7/8

Driven by Main Engines

Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

What provision is made for first Charging the Air Receivers

Scavenging Air Pumps, No.

One

Diameter

720 7/8

Stroke

240 7/8

Driven by Main Engines

Auxiliary Engines crank shafts, diameter

as per Rule  
as fitted

Position

Is a report sent herewith

Have the Auxiliary Engines been constructed under special survey

AIR RECEIVERS:—Have they been made under survey *yes* State No. of Report or Certificate *6.48327*

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. *None*

Cubic capacity of each *✓*

Internal diameter *✓*

thickness *✓*

Seamless, lap welded or riveted longitudinal joint *✓*

Material *✓*

Range of tensile strength *✓*

Working pressure by Rules *✓*

Starting Air Receivers, No. *2*

Total cubic capacity *30 cub. ft.*

Internal diameter *21"*

thickness *13/32"*

Seamless, lap welded or riveted longitudinal joint *Riveted*

Material *Steel*

Range of tensile strength *Shell 28/32 tons*

Working pressure by Rules *355 lb*

Actual *355 lb*

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 *9.6.42*

(If not, state date of approval)

Receivers *16.5.33*

Separate Fuel Tanks

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 *yes*

State the principal additional spare gear supplied *as per attached list*

The foregoing is a correct description.

For BRITISH AUXILIARIES, LIMITED

Manufacturer.

Dates of Survey while building

During progress of work in shops--

During erection on board vessel--

Total No. of visits

*1943 May 7. 20. 24. 31 Jun 14 July 5. 9. 13. 14 Aug 6*

*10.*

Dates of Examination of principal parts—Cylinders *7.5.43*. Covers *20.5.43*. Pistons *20.5.43*. Rods *31.5.43*. Connecting rods *31.5.43*

Crank shaft *31.5.43*. Flywheel shaft *31.5.43*. Thrust shaft *31.5.43*. 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 *steel*. Identification Mark *140405 No. 1619*. Flywheel shaft, Material *✓*. Identification Mark *✓*

Thrust shaft, Material *steel*. Identification Mark *140405 No. 1167*. Intermediate shafts, Material *✓*. Identification Marks *✓*

Tube shaft, Material *✓*. Identification Mark *✓*. Screw shaft, Material *✓*. Identification Mark *✓*

Identification Marks on Air Receivers *No. 48327*

*LLOYD TEST. 555 lb. W.P. 355 lb. J.M.L. 31.3.43.*

*These Receivers fitted to Yard No. 663 Receiver from Eng No. 462 fitted to this vessel (No. 48328)*

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 *M/V BEN HANN. Gls No. 61494*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines have been built*

*under Special Survey in accordance with the Rules and approved plan. The material and workmanship are good. On completion they have been tried on the bench at full load with satisfactory results. They are to the order of Messrs Isaac Pimblott & Sons Ltd Northwich and intended for a vessel building at their yard.*

The amount of Entry Fee *£3.0.0.*

When applied for *10 AUG 1943*

*Gls No. 23. £16.17.0*

*Low. 4c 32 8.8.0*

Donkey Boiler Fee *£*

When received *10/43*

Travelling Expenses (if any) *£*

Committee's Minute *GLASGOW*

Assigned *signed for completion*

*G. E. Murdoch*

Engineer Surveyor to Lloyd's Register of Shipping.

LIVERPOOL 20 FEB 1945

See Minute on Liverpool L.R. Machinery Report.