

REPORT ON OIL ENGINE MACHINERY.

No. 61494

AUG 30 1939

Date of writing Report

19

When handed in at Local Office

28.8.39 Port of

Received at London Office

Glasgow

No. in Survey held at

Reg. Book.

Date, First Survey 12.6.39

Last Survey 22nd Aug 1939

Number of Visits

Single
on the Twin
Triple
Quadruple

Screw vessel

M.V. "BEN HANN"

Tons
Gross
Net

Built at Rowhedge

By whom built Rowhedge Ironworks Co.

Yard No. 585 When built 1939

Engines made at

Glasgow

By whom made British Auxiliaries Ltd

Engine No. 340 When made 1939

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, &c.—Type of Engines Heavy Oil Type M46I 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 782 lbs.

Mean Indicated Pressure 96.7

Diameter of cylinders 250 7/8

Length of stroke 420 7/8

No. of cylinders 6

No. of cranks 6

Sp. of bearings, adjacent to the Crank, measured from inner edge to inner edge 360 7/8

Is there a bearing between each crank Yes.

Revolutions per minute 375

Flywheel dia. 906 7/8

Weight 369 Kgs

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 160 7/8

Crank pin dia. 160 7/8

Crank Webs

Mid. length breadth 214.3 7/8

Mid. length thickness 90 7/8

Thickened parallel to axis
Thickened around eye hole

Flywheel Shaft, diameter

as per Rule 158 7/8
as fitted 160 7/8

Intermediate Shafts, diameter

as per Rule 113 7/8
as fitted

Thrust Shaft, diameter at collars

as per Rule 158 7/8
as fitted 160 7/8

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

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 Direct

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

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

Diameter 140 7/8

Stroke 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. 2575 gallons each

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. One

No. of stages 2

Diameters 40 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

No.

Position

Have the Auxiliary Engines been constructed under special survey

Is a report sent herewith

Lloyd's Register

Marine

AIR RECEIVERS:—Have they been made under survey *yes*

State No. of Report or Certificate *638848*

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. *Two*

Cubic capacity of each

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint *yes*

Material

Range of tensile strength

Working pressure

by Rules

Actual

Starting Air Receivers, No. *Two*

Total cubic capacity

800 lbs

Internal diameter

21"

thickness

13/32"

Seamless, lap welded or riveted longitudinal joint *yes*

Material

Steel

Range of tensile strength

24-28 tons

Working pressure

by Rules

Actual

355 lbs

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 *27-8-35*

(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,

Manufacturer.

Dates of Survey while building

During progress of work in shops --

During erection on board vessel --

Total No. of visits

1939 June: 12.21.26 July 3 Aug: 10.15.16.22

8

Dates of Examination of principal parts—Cylinders *21-6-39* Covers *3-7-39* Pistons *21-6-39* Rods *26-6-39* Connecting rods *26-6-39*

Crank shaft *12-6-39* Flywheel shaft *and* Thrust shaft *12-6-39* Intermediate shafts

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 *P.K. 30-9-39* Flywheel shaft, Material *and* Identification Mark

Thrust shaft, Material *steel* Identification Mark *868 T.T. 8-6-39* Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Identification Marks on Air Receivers *No. 38848*
LLOYD'S TEST
555 lbs
W.P. 355 lbs.
5-7-39

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 *ENTER TUG WASP - Glos. No 6193*

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 plans. The materials and workmanship are good. They have been tested on the bench at full power with satisfactory results. They have been shipped to Rowhedge for fitting on board a vessel No. 585 building by Messrs Rowhedge Ironworks Co.*

The amount of Entry Fee *£ 3.0.0*

When applied for,

29 AUG 1939

Special *£ 25.5.0*

Donkey Boiler Fee *£*

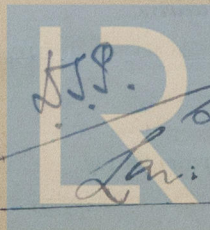
When received, *£ 28.5.0 paid Glasgow 2. Oct. 1939*

Travelling Expenses (if any) *£*

Committee's Minute *GLASGOW 29 AUG 1939*

Assigned *TRANSMIT TO LONDON*

G. E. Murdoch
Engineer Surveyor to Lloyd's Register of Shipping



TUE 29 MAR 1940

Lloyd's Register Foundation