

Newcastle-on-Tyne

94780

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY

No. 32004

16 JAN 1937

Received at London Office

Date of writing Report 19 When handed in at Local Office 15 JAN 1937 Port of Sunderland
Sunderland. Date, First Survey 21st Sep. Last Survey 12th Jan 1937
No. in Survey held at Reg. Book. Number of Visits 40

Single on the M.V. "ABBEYDALE" Screw vessel Tons Gross 8299 Net 4936
Built at Newcastle By whom built Swan Hunter & Wigham Richardson Ltd No. 1506 When built 1934.
Engines made at Sunderland By whom made Wm. Deafield & Sons Ltd Engine No. 195 When made 1934.
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 2850 Owners British Tanker Co Ltd Port belonging to
Nom. Horse Power as per Rule 684 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines Opposed piston airless injection 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 540 lbs/sq. in. Diameter of cylinders 600 in. Length of stroke Upper 980 in. Lower 1340 in. No. of cylinders 4. No. of cranks 4 three throws.
Mean Indicated Pressure 84 lbs/sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 940 in. Is there a bearing between each crank between each 3 throws.
Revolutions per minute 94. Flywheel dia. 2050 in. Weight 62 cwt. Means of ignition Compression Kind of fuel used
Crank Shaft, dia. of journals as per Rule 425 in. Crank pin dia. 450 in. Crank Webs Mid. length breadth 650 in. Thickness parallel to axis 255 in.
Flywheel Shaft, diameter as fitted 450 in. Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule 425 in. as fitted 450 in.

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is 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 Hand lever. Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes. Means of lubrication
Thickens of cylinder liners 25 in. 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 main engine driven 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

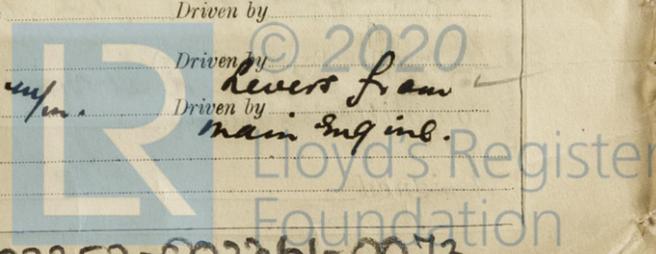
Pumps connected to the Main Bilge Line No. and Size How driven
Is the cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements
Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One main engine driven 100 in x 610 in
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 Diameter 1960 in. Stroke 610 in. Driven by main engine
Auxiliary Engines crank shafts, diameter as per Rule as fitted Position

002352-002361-0073



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

Can the internal surfaces of the receivers be examined and cleaned Is a drain fitted at the lowest part of each receiver

High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

Starting Air Receivers, No. Total cubic capacity Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 20/11/35. Receivers Separate Fuel Tanks

(If not, state date of approval)

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 *One cylinder liner & jacket Complete, one starting air non-return valve Complete, one cyl. relief valve Complete, 4 Scavenge pumps Suct. & del. valve discs (halves), two fuel pump bodies Complete with Suct. & del. valves, one intermediate crosshead with Suct. & del. valves, 1 bell crank lever & suction tappet for fuel pump, four fuel valves Complete, 1 roller chain for Camshaft drive.*

The foregoing is a correct description,

WILLIAM DOXFORD & SONS, Limited. Manufacturer.

H. P. Keller Director.

Dates of Survey while building

During progress of work in shops - -	1936. Sep. 21, 25, 29. Oct. 21, 22, 29. Nov. 5, 11, 12, 13, 16, 17, 18, 19, 23, 24, 25, 26, 27, 30. Dec. 2, 4, 7, 9, 11, 14, 15.
During erection on board vessel - -	16, 21, 22, 23, 24, 29, 31. 37/ Jan. 4, 5, 6, 8, 11, 12. - Sld 40 visits.
Total No. of visits	21/9/36 25/9/36 21/12/36 21/12/36 23/12/36 23/12/36 14/12/36

Dates of Examination of principal parts—Cylinders *11/11/36 11/12/36* Covers Pistons *23/12/36* Rods *23/12/36* Connecting rods *14/12/36*

Crank shaft *20/11/36 (G.L.S.)* Flywheel shaft *as crank* Thrust shaft *as crank* 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 *high steel* Identification Mark *S.O. 4185* Flywheel shaft, Material *as crank* Identification Mark *as crank*

Thrust shaft, Material *as crank* Identification Mark *as crank* 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 *Yes.* If so, state name of vessel *M/V "BRITISH FAME".*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been built under Special Survey in accordance with the Rules of the Society & the Secretary's letter E 25/4/34.*

The materials & workmanship are good. The engine has been tried under full load conditions on the test bed with satisfactory results & has been despatched to Messrs Swan Hunter & Wigham Richardson & Co. Ltd. Wallsend for installation on board the vessel, after which it will be, in my opinion, eligible to have notation ^{1/2} L.M.C. (with date) oil eng. These engines have been satisfactorily installed on the ship and tried under working conditions.

Admitt Newcastle on Tyne

The amount of Entry Fee .. £ 6 : : When applied for, *15 JAN 1937*

4/5 Special .. £ 84 : 10 : : *LAO*

welded const? .. £ 12 : 12 : : *When received, as per letter 10/1/37*

Donkey Boiler Fee .. £ 12 : 12 : : *3/2/1937*

1/5 Travelling Expenses (if any) £ : : : *See NWC. J.E. 947 80*

Committee's Minute

Assigned

D. St. Fraser
Engineer Surveyor to Lloyd's Register of Shipping.



SUNDERLAND