

REPORT ON OIL ENGINE MACHINERY,

No. 97701

Received at London Office

Date of writing Report

When handed in at Local Office

29th July 1939. Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

Date, First Survey 22 April 1938 Last Survey 27th July 1939.

Number of Visits 104

35327 on the Single
Triple
Quadruple Screw vesselTons { Gross 10364
Net 6178Built at Wallsend. By whom built Swan Hunter & Wigham Richardson Ltd Yard No. 1561 When built 1939.Engines made at St Peter's Works, Newcastle By whom made R.W. Hawthorn Leslie & Co Ltd Engine No. 3956 When made 1939.Donkey Boilers made at St Peter's Works By whom made R.W. Hawthorn Leslie & Co Ltd Boiler No. 3956 When made 1939.Brake Horse Power 4660 Owners Anglo Saxon Petroleum Co Ltd Port belonging to London.Nom. Horse Power as per Rule 628 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.Trade for which vessel is intended Ocean Going.IL ENGINES, &c. Type of Engines Hawthorn Workshop Airless Injection Supercharged. 2 or 4 stroke cycle 4 Single or double acting SingleMaximum pressure in cylinders 700 lb/sq. in. Diameter of cylinders 650 in. Length of stroke 1400 in. No. of cylinders 10 No. of cranks 10Mean Indicated Pressure 135 lb/sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 855 in. Is there a bearing between each crank Yes.Revolutions per minute 120 Flywheel dia. None Weight ✓ Means of ignition Compression Kind of fuel used Diesel oil.Crank Shaft, dia. of journals as per Rule 464 in. Crank pin dia. 475 in. Crank Webs Mid. length breadth 900 in. Thickness parallel to axis 373 1/2 in.
as fitted 475 in. Mid. length thickness 285 in. Thickness around eye-hole 210.5 in.Flywheel Shaft, diameter as per Rule None. Intermediate Shafts, diameter as per Rule 351 in. Thrust Shaft, diameter at collars as per Rule 369 in.
as fitted None. as fitted 440 in. as fitted 460 in.Tube Shaft, diameter as per Rule ✓ Screw Shaft, diameter as per Rule 386 in. Is the intro shaft fitted with a continuous liner Yes.
as fitted ✓ as fitted 440 in. as fitted 440 in.Bronze Liners, thickness in way of bushes as per Rule 194 in. Thickness between bushes as per Rule 14.5 in. Is the after end of the liner made watertight in the
as fitted 21 in. as fitted 16 in. propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ContinuousIf 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 Light full length.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 tubeshaft No. If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 1547 in.Propeller, dia. 16'-3" Pitch 12'-3" No. of blades 4 Material M. Bronze whether Moveable Solid Total Developed Surface 90 sq. feetMethod of reversing Engines Servomotor Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes Means of lubricationForced Thickness of cylinder liners 55 in. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged withnon-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 led to tankCooling Water Pumps, No. Two One Rotary on Main Engine 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. Two Diameter Rotary Stroke - Can one be overhauled while the other is at work Yes.Pumps connected to the Main Bilge Line { No. and Size Two Off 35 tons/hour } one G.S. Pump 8"x8"x10" about 100 tons/hour.
How driven Main Engine Steam.Is the cooling water led to the bilges overboard If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumpingarrangements ✓ one - 8"x8"x10" duplex one Rotary - 50 tons/hr.
General Service Pump. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one Standby 8"x8"x10"Are two independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both Main Bilge Pumps and Auxiliary BilgePumps, No. and size:—In Machinery Spaces { one aft well 4" dia. one R+one S 4" dia each } In Pump Room 4" dia
one 4" dia one aft lub oil cofferdam 4" dia each. 4" diaIn Holds, &c. Ford Hold 3 @ 1 1/2" dia. one Peak Flat 2 @ 2" dia. one 5 1/2" G.S. Pump & one 7" Emergency Bypass to I.C.W. Pumps.Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 5 1/2" G.S. Pump & one 7" Emergency Bypass to I.C.W. Pumps.Are all the Bilge Suction pipes in Holds and Tunnels fitted with strum-boxes Yes. Are the Bilge Suctions in the Machinery Spacesled 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 Yes. Are they fitted with Valves or Cocks Both.Are they fixed sufficiently 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 Yes.What pipes pass through the bunkers None. How are they protected ✓What pipes pass through the deep tanks None. 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 Yes. 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. one No. of stages 2 Diameters 120 cu ft per min against 350 lb/sq. in. Driven by DieselSmall Auxiliary Air Compressors, No. one No. of stages 2 Diameters 184 - 206 in. Stroke 160 in. Driven by SteamScavenging Air Pumps, No. None Diameter ✓ Stroke ✓ Driven by ✓Auxiliary Engines crank shafts, diameter as per Rule Grimsby Off 20948 No. one 2-cyl. Kromhout Oil Eng 20 kw Dynamometer Setas fitted Amsterdam Rpt 15544 Position Both on Starboard Side in Engine Room.

W1150-0144

AIR RECEIVERS:—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.*

High Pressure 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*

Actual *✓*

Starting Air Receivers, No. *Two*

Total cubic capacity *1000 cu ft*

Internal diameter *5'-3"*

thickness *7/8"*

Seamless, lap welded or riveted longitudinal joint *T.R.O.B.S.*

Material *Steel*

Range of tensile strength *Shell 28637mo*

Working pressure *by Rules*

Actual *358 lb/10*

IS A DONKEY BOILER FITTED? *Yes Two.*

If so, is a report now forwarded? *Yes.*

Is the donkey boiler intended to be used for domestic purposes only *No.*

For Steam Auxiliaries etc.

PLANS. Are approved plans forwarded herewith for Shafting *10/5/38 + 24/5/38.*

(If not, state date of approval)

Receivers *25/7/38.*

Separate Fuel Tanks *2/5/38.*

Donkey Boilers *5/4/38.*

General Pumping Arrangements *26/4/38*

Pumping Arrangements in Machinery Space *21/3/38.*

Oil Fuel Burning Arrangements *21/3/38.*

" " at Ford End 4/1/39.

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes.*

State the principal additional spare gear supplied *As per list attached.*

The foregoing is a correct description,

R. & W. HAWTHORN, LESLIE & CO. LIMITED

Manufacturer.

Dates of Survey while building
During progress of work in shops-- *1938 Apr. 22 June 9 July 5, 18, 24, Sep. 5, 10, 6 Oct. 21, 25, 26, 28, Nov. 3, 7, 15, 16, 21, 23, 25, 30, Dec. 3, 7, 12, 14.*
During erection on board vessel-- *22, 29, 1939 Jan. 3, 10, 11, 18, 21, 24, 26, 28, Feb. 1, 2, 6, 8, 9, 10, 13, 14, 15, 17, 20, 23, 27, Mar. 1, 3, 4, 6, 9, 14, 16, 17, 21, 22, 23, 27, Apr. 1, 3, 5, 6, 11, 12, 13, 14, 20, 24, 26, 27, May 1, 3, 5, 8, 10, 12, 19, 23, 25, 26, 31, June 5, 6, 8, 9, 12, 13, 16, 26, 27, 30.*
Total No. of visits *104.*

Dates of Examination of principal parts—Cylinders *21-10-38* Covers *21-10-38* Pistons *23-11-38* Rods *9-2-39* Connecting rods *23-11-38*
Crank shaft *14-3-39* Flywheel shaft *✓* Thrust shaft *16-3-39* Intermediate shafts *27-4-39* Tube shaft *✓*

Screw shaft *5-4-39* Propeller *5-4-39* Stern tube *3-4-39* Engine seatings *8-5-39* Engines holding down bolts *9-6-39*
Share 6-4-39. Completion of fitting sea connections *3-5-39.* Completion of pumping arrangements *21/7/39.* Engines tried under working conditions *27-7-39.*

Crank shaft, Material *Steel* Identification Mark *14044 + 14045* Flywheel shaft, Material *✓* Identification Mark *✓*

Thrust shaft, Material *Steel* Identification Mark *5897.* Intermediate shafts, Material *Steel* Identification Marks *5896.*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *5886.*

Is the flash point of the oil to be used over 150° F. *Yes.* *Share 5887.*

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 *Oil Tanker*

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 *No*

If so, state name of vessel *✓*

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

The machinery has been constructed under Special Survey in accordance with the Society's Rules and approved plans. The materials and workmanship are sound and good. The machinery was efficiently installed on board, tested & manoeuvred on completion under working conditions & found satisfactory. The machinery of this vessel is eligible in our opinion to be classed and to have the notation of "Oil Engine" and records of + LMC 7, 39 and TS Ch.

The amount of Entry Fee .. £ 6 : - : When applied for,

Special £ 106 : 8 : *E-4 AUG 1939*

2 Donkey Boilers Fee £ 27 : 16 : When received,

2 Starting Air Receivers *10. 8. 19*

Travelling Expenses (if any) £ 8 : 8 : *18. 14/8*

Committee's Minute *TUE 15 AUG 1939*

Assigned *+ LMC 7.39 Oil Eng*

2DB 180 lb CL

L. Prescott & A. Watt

Engineer Surveyors to Lloyd's Register of Shipping.



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