

REPORT ON OIL ENGINE MACHINERY.

No 100.491

22 JUN 1942

Received at London Office

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Date of writing Report 19 When handed in at Local Office 19 Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at **Newcastle on Tyne** Date, First Survey **7 Jan 1941** Last Survey **27/5/1942**
Reg. Book. Number of Visits **92**

on the **Single** **"NICANIA"** **Triple** **Quadruple** Screw vessel Tons { Gross **8179**
Net **4767**

Built at **Newcastle (Hebburn)** By whom built **R+W. Hawthorn, Leslie & Co** Yard No. **648** When built **1942-**

Engines made at **Newcastle (St Peter)** By whom made **ditto** Engine No. **3975** When made **1942-**

Donkey Boilers made at **ditto** By whom made **ditto** Boiler No. **3975** When made **1942-**

Brake Horse Power **3500** ✓ Owners **Anglo Saxon Pet. Co. Ltd** Port belonging to **London**

Nom. Horse Power as per Rule **502** ✓ Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes** ✓

Trade for which vessel is intended **Ocean going, Carrying Petroleum in bulk**

ENGINES, &c.—Type of Engines **8 Cy Hawthorn-Workshop** **2 or 4 stroke cycle** **4** Single or double acting **Single**

Maximum pressure in cylinders **700 lb/sq in** ✓ Diameter of cylinders **650 mm** ✓ Length of stroke **1400 mm** ✓ No. of cylinders **8** ✓ No. of cranks **8** ✓

Indicated Pressure **135 lb/sq in** ✓

Mean of bearings, adjacent to the Crank, measured from inner edge to inner edge **844 mm** ✓ Is there a bearing between each crank **Yes** ✓

Revolutions per minute **120** ✓ Flywheel dia. **2260 mm** ✓ Weight **6000 kg** ✓ Means of ignition **Heat of Compression** ✓ Kind of fuel used **Heavy oil fuel** ✓

Crank Shaft, { Solid forged as per Rule **448 mm** ✓ Crank pin dia. **460 mm** ✓ Crank Webs Mid. length breadth **870 mm** ✓ Thickness parallel to axis **267 & 290 mm** ✓
Semi built dia. of journals as fitted **460 mm** ✓ Mid. length thickness **267 mm** ✓ shrunk Thickness around eyehole **204 mm** ✓
All built

Wheel Shaft, diameter as per Rule **448 mm** ✓ Intermediate Shafts, diameter as per Rule **325 mm** ✓ Thrust Shaft, diameter at collars as per Rule **341 mm** ✓
as fitted **460 mm** ✓ as fitted **470 mm** at journals ✓ as fitted **460 mm** ✓

Propeller Shaft, diameter as per Rule **358 mm** ✓ Is the { shaft fitted with a continuous liner { **Yes** ✓
as fitted **400 mm** ✓ screw

Oil Liners, thickness in way of bushes as per Rule **18.55 mm** ✓ Thickness between bushes as per Rule **13.9 mm** ✓ Is the after end of the liner made watertight in the
as fitted **20 mm** ✓ as fitted **15 mm** ✓

eller boss **Yes** ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner **In one length** ✓

he 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 **a tight fit** ✓

wo 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

No If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller **1585 mm**

PELLER, dia. **15'-0** ✓ Pitch **12 ft** No. of blades **4** Material **Mang. Brz** whether Moveable **No** Total Developed Surface **72** sq. feet

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

forced Thickness of cylinder liners **55 mm** ✓ Are the cylinders fitted with safety valves **Yes** ✓ Are the exhaust pipes and silencers water cooled or lagged with
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 top of funnel** ✓

ling Water Pumps, No. **Two** **For M.E. JACKETS & PISTONS - F.W. cooling** ✓ Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes on S.W. System to Coolers** ✓

e Pumps worked from the Main Engines, No. **2** Diameter **Rotary** Stroke **Three in all, viz: - Two Rotary (each 35 tons/hr), one Gen. Sew. Pump 12 x 8 1/2" Duplex (120 tons/hr)** ✓

ps connected to the Main Bilge Line { No. and Size **Three in all, viz: - Two Rotary (each 35 tons/hr), one Gen. Sew. Pump 12 x 8 1/2" Duplex (120 tons/hr)** ✓
How driven **by main engine** **by indep Steam Eng.**

e cooling water led to the bilges **No** ✓ If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
gements.

ast Pumps, No. and size **One 12" x 8 1/2" x 12" duplex Gen. Sew. Pump** ✓ Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **1 Rotary 40 tons/hr on main eng.** ✓

wo independent means arranged for circulating water through the Oil Cooler **Yes** ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

ps, No. and size:—In Machinery Spaces **10 3/4" aft, 1 port & 1 stbd each 3 1/2"; 2-2 1/2" in lub oil Cofferdam** ✓ In Pump Room **10 3"**

olds, &c. **In Forward Hold 2 1/2"; In Forward Store 2 1/2"; In Forward Hold Pump Room 10 1/2"; In Forward Aft Cofferdams one 4" in each.** ✓

pendent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **Two viz 10 1/2" in Gen. Sew. Pump & 10 1/2" Emergency Bilge to Cooler** ✓

all the Bilge Suction pipes in Hold and Tunnel Well fitted with strum-boxes **Yes** ✓ Are the Bilge Suctions in the Machinery Spaces

om easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **Yes** ✓

ll Sea Connections fitted direct on the skin of the ship **Yes** ✓ Are they fitted with Valves or Cocks **with both** ✓

ey 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** ✓

ey 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** ✓

pipes pass through the bunkers **4" bore Suction from Aft Cofferdam** ✓ How are they protected **None necessary**

pipes pass through the deep tanks **None** ✓ Has it **Has it** been tested as per Rule **Yes**

ll Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **Yes**

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
rtment to another **Yes** ✓ Is the Shaft Tunnel watertight **No tunnel** ✓ Is it fitted with a watertight door **worked from** ✓

ood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **✓**

5-6 Eng. Driven in Air Compressors, No. **None** No. of stages **✓** Diameters **✓** Stroke **✓** Driven by **✓**

iliary Air Compressors, No. **Two** No. of stages **2** Diameters **120 cub. ft. of Free Air @ 350 lb/sq in** Driven by **oil engine** ✓

all Auxiliary Air Compressors, No. **None** No. of stages **✓** Diameters **✓** Stroke **✓** Driven by **one oil engine & one Steam engine** ✓

26.3 at provision is made for first Charging the Air Receivers **by Steam driven Air Compressor** ✓

6.30 Evolving Air Pumps, No. **None** Diameter **✓** Stroke **✓** Driven by **✓**

6.19 Auxiliary Engine crank shafts, diameter as per Rule **✓** No. **One 2 Cy oil Eng. for Air Comp. / Generator Set (40 BHP Eng)** ✓

25. the Auxiliary Engine been constructed under special survey **Yes** ✓ Position **on Starboard side in Eng. Rm.** ✓

Is a report sent herewith **See Nottingham Cert. C.576** ✓

Contd P.T.O.

003162-003174-0289

AIR RECEIVERS: ^{Has it} Have they been made under survey. ^{yes} ✓ State No. of Report or Certificate ^{7. Test 550 lbs} 7. Test 550 lbs

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 ✓}
Actual [✓]

Starting Air Receivers, No. ^{One} ✓ Total cubic capacity ^{500 cub. ft} Internal diameter ^{5'6 1/4"} thickness ^{15/16}
Seamless, lap welded or riveted longitudinal joint ^{Riveted} Material ^{M. Stl plates} Range of tensile strength ^{Shell 28 to 32 tons} Working pressure ^{by Rules 371 lbs}
Actual ^{350 lbs}

IS A DONKEY BOILER FITTED? ^{yes} ✓ If so, is a report now forwarded? ^{yes} ✓

Is the donkey boiler intended to be used for domestic purposes only ^{No - also used for Steam Auxiliaries etc}

PLANS. Are approved plans forwarded herewith for Shafting ^{Os. 28/8/40; Inten 75} Receivers ^{17/1/41} Separate Fuel Tanks [✓]
(If not, state date of approval) ^{+ 12/2/42 approval for use} ^{ONE Receiver instead 8 Jars} Pumping Arrangements in Machinery Space ^{12/5/41}

Donkey Boilers ^{17/1/41} General Pumping Arrangements

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 List attached}

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 20. 23. 28. 30. 31. Nov. 5. 10. 12. 14. 17. 18. 20. 25. Dec. 1. 4. 9. 12. 17. 18. 19. 23. 30. 1942 Jan 6. 8. 9. 13. 14. 15. 17. 22. 26
During erection on board vessel - - 29. 31. Feb. 3. 5. 11. 18. 20. 25. 27. Mar. 2. 5. 11. 16. 17. 18. 20. 23. 26. 27. 28. 30. 31. Apr. 2. 8. 9. 16. 20. 21. 22. 24. 28. 29. 30. May 7. 13. 18. 27.
Total No. of visits ⁹²

Dates of Examination of principal parts - Cylinders ^{15/9/41 to 30/10/41} Covers ^{8/10/41 to} Pistons ^{28/1/42} Rods ^{28/10/41} Connecting rods ^{5/11/41}

Crank shaft ^{30/10/41} Flywheel shaft ^{17/12/41} Thrust shaft ^{6/10/41} Intermediate shafts ^{30/12/41} Tube shaft [✓]

Screw shaft ^{17/12/41} Propeller ^{7/12/41} Stern tube ^{13/1/42} Engine seatings ^{15/1/42} Engines holding down bolts ^{23/3/42}

Completion of fitting sea connections ^{26/1/42} Completion of pumping arrangements ^{18/5/42} Engines tried under working conditions ^{18th, 19th, 20th May 1942}

Crank shaft, Material ^{7. Stl} Identification Mark ^{9888 HAI} Flywheel shaft, Material ^{2. Stl} Identification Mark ^{9888 HAI}

Thrust shaft, Material ^{2 Stl} Identification Mark ^{9888 HAI} Intermediate shaft, Material ^{7 Stl} Identification Marks ^{9888 HAI}

Tube shaft, Material [✓] Identification Mark [✓] Screw shaft, Material ^{2 Stl} Identification Mark ^{9888 HAI}

Identification Marks on Air Receivers ^{LLOYDS TEST 550 LBS/24 IN}
^{HP 350 LBS}
^{3-2-42 AW and}

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 ^{not required}

Is this machinery duplicate of a previous case ^{yes} ✓ If so, state name of vessel ^{DIPLODON H.L. Yard No 632}
^{sup no 3969}
^{Nov. Rpt 99860}

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

The machinery of this vessel has been constructed under Special Survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good.

The machinery has been efficiently installed on board the vessel, tested under working conditions with satisfactory results and is eligible in my opinion for record + LMC 5.42, and the notations D.B. & W.P.

CL. Oil Eng. machy aft

The amount of Entry Fee .. £ 6 : - : When applied for,
Special £ 100 : 2 : 124 JUN 1942
Donkey Boiler Fee ... £ 23 : 6 :
one Starting Air Recv ... £ 4 : 4 :
Travelling Expenses (if any) : : : 19

Committee's Minute ^{FRI. 3 JUL 1942}

Assigned ^{+ Lmb. 5.42}
^{28-180H}
^{Oil Eng. Ch}

A. Watt.

Engineer Surveyor to Lloyd's Register of Shipping.



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