

REPORT ON OIL ENGINE MACHINERY.

No. 100.491

22 JUN 1942

Received at London Office

26 JUN 1942

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** Screw vessel **"NICANIA"** 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 Petroleum 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 Cyl Hawthorn-Workshop Supercharged 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** 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** dia. of journals as per Rule **448 mm** as fitted **460 mm** Crank pin dia. **460 mm** Crank Webs Mid. length breadth **870 mm** Thickness parallel to axis **267+290 mm**
Semi built as fitted **460 mm** Mid. length thickness **267 mm** Thickness around eyehole **204 mm**
All built 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** as fitted **400 mm** Is the shaft fitted with a continuous liner **Yes**
Screw Shaft, diameter as per Rule **358 mm** as fitted **400 mm**
Bronze Liners, thickness in way of bushes as per Rule **18.55 mm** as fitted **20 mm** Thickness between bushes as per Rule **13.9 mm** as fitted **15 mm** Is the after end of the liner made watertight in the
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 **In one length**
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 **a tight fit**
If two liners are fitted, is the shaft lapped or protected between the liners **Yes** Is an approved Oil Gland or other appliance fitted at the after end of the tube
No If so, state type **Yes** Length of Bearing in Stern Bush next to and supporting propeller **1585 mm**

Propeller, dia. **15'-0"** Pitch **12 ft** No. of blades **4** Material **Mans. Brz** whether Moveable **No** Total Developed Surface **72 sq. feet**
Method of reversing Engines **Air 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**
Cooling Water Pumps, No. **Two** For **ME. JACKETS & PISTONS - F.W. COOLING** The sea suction provided with an efficient strainer which can be cleared within the vessel **Yes on S.W. System to Coolers.**
Pumps worked from the Main Engines, No. **2** Diameter **Rotary** Stroke **Can one be overhauled while the other is at work** **Yes**

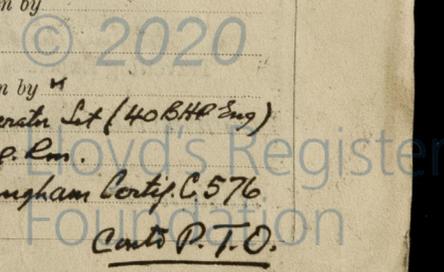
Pumps connected to the Main Bilge Line { No. and Size **Three in all, viz: - two Rotary (each 35 tons/hr), one Gen. Sew. Pump 12x8x12 Duplex (120 tons/hr)**
How driven **by main engine by indep Steam Eng.**
Is the cooling water led to the bilges **No** If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
arrangements.
Suction Pumps, No. and size **one 12x8x12 duplex Gen. Sew. Pump.** Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **1 Rotary 40 tons/hr on main eng. 1 Stand-by 8x8x18 duplex 50 tons/hr.**
Two independent means arranged for circulating water through the Oil Cooler **Yes** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
Pumps, No. and size:—In Machinery Spaces **10 3/2 aft, 1 port & 1 stbd each 3 1/2"; 2-2 1/2" in lub oil cofferdam** In Pump Room **10 3"**
Direct Suctions to the Engine Room Bilges, No. and size **In Forward Hold 2 1/2"; In Forward Store 2 1/2"; In Forward Hold Pump Room 10 2"; In Forward Aft Cofferdams one 4" in each.**
All the Bilge Suction pipes in Hold and Tunnel Well fitted with strum-boxes **Yes** Are the Bilge Suctions in the Machinery Spaces
easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **Yes**

Sea Connections fitted direct on the skin of the ship **Yes** Are they fitted with Valves or Cocks **with 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**
Do pipes pass through the bunkers **4" bore Suction from Aft Cofferdam** How are they protected **None necessary**
Do pipes pass through the deep tanks **None** Has it been tested as per Rule **Yes**

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 **No tunnel** Is it fitted with a watertight door **worked from**
If the vessel is a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **Yes**
Auxiliary Air Compressors, No. **None** No. of stages **2** Diameters **120 cub. ft. of Free Air @ 350 lb/sq in** Stroke **Driven by oil engine & one Steam engine**
All Auxiliary Air Compressors, No. **None** No. of stages **2** Diameters **Stroke** Driven by **oil engine & one Steam engine**

Is any special provision made for first Charging the Air Receivers **by Steam driven Air Compressor.**
Refrigerating Air Pumps, No. **None** Diameter **Stroke** Driven by **oil engine & one Steam engine**
Do the Auxiliary Engines been constructed under special survey **Yes** Is a report sent herewith **See Nottingham Cert. C. 576 Conts P.T.O.**

003162-003174-0289



AIR RECEIVERS - ^{Has it} Have they been made under survey *Yes* ✓ State No. of Report or Certificate *J. Tester to 550 lbs for HP. 350 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. Std plates* Range of tensile strength *Shell 28 to 32 tons
Ribs 26 to 30 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; Intent 75.* Receivers *17/1/41* Separate Fuel Tanks *✓*
 (If not, state date of approval) *22/2/41* *+ 12/2/42 approval for use of ONE Receiver instead of two* Pumping Arrangements in Machinery Space *12/5/41*

Donkey Boilers *17/1/41* General Pumping 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,

R. & T. ...
10 Tolson St.

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	Jan. 7. 10. 14. 17. June 4. 27. Aug. 5. 20. 27. Sep. 11. 15. 17. 19. 20. 24. 6. 1. 3. 6. 8.	
	During erection on board vessel - -	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.	
	Total No. of visits	<i>92.</i>	
Dates of Examination of principal parts -	Cylinders	<i>15/9/41 to 30/10/41</i>	Covers
	Crank shaft	<i>30/10/41</i>	Flywheel shaft
	Screw shaft	<i>17/12/41</i>	Propeller
	Completion of fitting sea connections	<i>26/1/42</i>	Completion of pumping arrangements
	Crank shaft, Material	<i>7. Stl</i>	Identification Mark
	Thrust shaft, Material	<i>7 Stl</i>	Identification Mark
	Tube shaft, Material	<i>✓</i>	Identification Mark
	Identification Marks on Air Receivers	<i>LLOYDS TEST 550 LBS/20 IN HP 350 LBS 3-2-42 AW and</i>	
		<i>9888 HAI.</i>	<i>19/9/41</i>
		<i>9888 HAI</i>	<i>F8780</i>
		<i>7 Stl</i>	<i>7 Stl</i>
		<i>7 Stl</i>	<i>7 Stl</i>
		<i>7 Stl</i>	<i>7 Stl</i>
		<i>9888 HAI.</i>	<i>F8779.</i>
		<i>9888 HAI</i>	<i>F. 53.</i>
		<i>9888 HAI.</i>	<i>9888 HAI. 98</i>
		<i>F. 531.</i>	

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.T. Yard No 632
Reg 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. (D. W.P.)
Cl. Oil Eng. machy aft

The amount of Entry Fee	.. £ 6 : -	When applied for,
Special	.. £ 100 : 2	<i>12 JUN 1942</i>
Donkey Boiler Fee	.. £ 23 : 6	When received,
one Starting Air Receiver	.. £ 4 : 4	
Travelling Expenses (if any)	.. £ :	19

A. Watt.
 Engineer Surveyor to Lloyd's Register of Shipping.



Committee's Minute *FRI. 3 JUL 1942*
 Assigned *+ Lmb. 5.42
28-180H
oil eng. ch*

NEWCASTLE-ON-TYNE

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)