

RECEIVED
No 4b

REPORT ON OIL ENGINE MACHINERY.

No 106762

Received at London Office 29 NOV 1949

Date of writing Report 19 When handed in at Local Office 25 NOV 1949 19 Port of **NEWCASTLE-ON-TYN**

No. in Survey held at **NEWCASTLE ON TYNE** Date, First Survey 14.5.49. Last Survey 14.11.1949.
Reg. Book. Number of Visits 45

on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel **"FELIPES"** Tons ^{Gross} 2992 ^{Net} 1544

Built at **SUNDERLAND** By whom built **JOHN CROWN & SONS** Yard No. 230 When built 1949

Engines made at **NEWCASTLE** By whom made **R & W. HAWTHORN LESLIE & CO. LD.** Engine No. 4064 When made 1949

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 1500 Owners **ANGLO-SAXON PETROLEUM CO. LD.** Port belonging to

Nom. Horse Power as per Rule 321 ^{N.H.P. = 223} Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines **HAWTHORN - WERKSPOR SUPERCHARGED** stroke cycle 4. Single or double acting **SINGLE**

Maximum pressure in cylinders 700 LBS/□" ✓ Diameter of cylinders 500 ^{19 1/16} m ✓ Length of stroke 1100 ^{43 5/16} m No. of cylinders 6 No. of cranks 6 ✓

Mean Indicated Pressure 130 LBS/□" ✓ Is there a bearing between each crank YES ✓

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 640 ^{25 1/2} m ✓

Revolutions per minute 140 ✓ Flywheel dia. 1930 ^{76 1/8} m ✓ Weight 4.03 TNS ✓ Means of ignition **COMPRESSION** Kind of fuel used **DIESEL OIL** ✓

Crank Shaft, ^{Solid forged} dia. of journals as per Rule **APPROVED** ✓ ^{Semi-built} as fitted 350 ^{13 7/8} m ✓ Crank pin dia. 350 ^{13 7/8} m ✓ Crank Webs Mid. length breadth 660 ^{25 9/16} m ✓ Thickness parallel to axis 200 ^{7 7/8} m ✓

^{All built} as per Rule 300 ^{11 7/8} m ✓ Intermediate Shafts, diameter as per Rule 300 ^{11 7/8} m ✓ Thrust Shaft, diameter at collars as per Rule 300 ^{11 7/8} m ✓

Tube Shaft, diameter as per Rule ✓ as fitted ✓ **Screw Shaft,** diameter as per Rule 300 ^{11 7/8} m ✓ Is the ^{tube} screw shaft fitted with a continuous liner YES ✓

Bronze Liners, thickness in way of bushes as per Rule 18.5 ^{3/4} m ✓ Thickness between bushes as fitted 15 ^{1/2} m ✓ 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 ✓

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 NO ✓ If so, state type ✓ Length of Bearing in **Stern Bush** next to and supporting propeller 3'-11 1/2" ✓

Propeller, dia. 11'-8" ✓ Pitch 9'-0" MEAN No. of blades 4 Material **BRONZE** whether Moveable NO Total Developed Surface 51 sq. feet

Method of reversing Engines **COMPRESSED AIR** Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES ✓ Means of lubrication **FORCED** ✓ Thickness of cylinder liners 32.5 ^{1 1/4} m Are the cylinders fitted with safety valves YES ✓ Are the exhaust pipes and silencers water cooled or lagged with non-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 ✓

Cooling Water Pumps, No. ✓ 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 **ROTARY** Stroke **28 TNS/HR** 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 ✓

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 ✓

What provision is made for first Charging the Air Receivers ✓

Scavenging Air Pumps, No. **NONE** Diameter ✓ Stroke ✓ Driven by ✓

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 ✓



Handwritten signature or initials in red ink.

12/12/49
JH

AIR RECEIVERS:—Have they been made under survey YES ✓ State No. of Report or Certificate

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. ✓ 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 300 cu. ft. Internal diameter 5'-3" thickness 1" No Cert. No Reg.

Seamless, lap welded or riveted longitudinal joint **ELECT WELD** Material **STEEL** Range of tensile strength **SHELL 28/32 ENDS 26/30** Working pressure by Rules Actual **350 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 YES ✓ Receivers **APPROVED 28.6.49** 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.**

TORSIONAL VIBRATION CHARACTERISTICS APPROVED ²⁷⁻¹⁰⁻⁴⁸ **30.9.48** for speed of 140 R.P.M.

The foregoing is a correct description, and the Particulars of the Installation as fitted are as Approved for Torsional Vibration Characteristics.

R.W. Hawthorn & Co. Ltd.
DIRECTOR

Dates of Survey while building

During progress of work in shops -- During erection on board vessel -- Total No. of visits	(1949) MAY 14, JUN. 14, 21, 23, 24, 30, JULY 11, 13, 15, 19, 21, 25, 24, AUG. 3, 9, 15, 17, 19, 23, 25, 29, 31, SEPT. 4, 5, 14, 20, 22, 23
	27, 29, OCT. 5, 11, 13, 14, 18, 20, 24, 25, 28, NOV. 1, 3, 9, 11, 15, 17
	45

Dates of Examination of principal parts—Cylinder ^{LINERS} 27.6.49 etc. Covers 27.6.49 etc. Pistons 15.8.49 etc. Rods 25.7.49 etc. Connecting rods 19.7.49 etc.

Crank shaft 29.8.49 Flywheel shaft 2.9.49 Thrust shaft 3.8.49 Intermediate shafts 20.10.49 Tube shaft ✓

Screw shaft 20.9.49 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 **F.O.H.I.S.** Identification Mark **HAI. 25.5.49** Flywheel shaft, Material **F.O.H.I.S.** Identification Mark **14561 LL No. 18303** **HAI. 23.12.48, AB. 29.9.49**

Thrust shaft, Material **F.O.H.I.S.** Identification Mark **HAI. 23.12.48** Intermediate shafts, Material **F.O.H.I.S.** Identification Marks **HAI. 22.11.48, AB. 20.10.49**

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material **F.O.H.I.S.** Identification Mark **980 LL No. 18235** **HAI. 25.11.48, AB. 20.9.49**

Identification Marks on Air Receivers

" LLOYDS TEST : TP. 575 LBS : WP. 350 LBS : 26.10.49 : A.B. "

(Constructed by R.W. HAWTHORN LESLIE & CO. LD. NEWCASTLE.)

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 NO. If so, state name of vessel

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

THE MACHINERY REFERRED TO HEREIN HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY AND IN ACCORDANCE WITH THE RULES AND SECRETARY'S LETTERS, THE MATERIAL AND WORKMANSHIP ARE GOOD, AND IS IN MY OPINION ELIGIBLE FOR INSTALLATION IN A CLASSED VESSEL.

THE MACHINERY HAS BEEN FORWARDED TO SUNDERLAND FOR INSTALLATION IN MESSRS JOHN CROWN AND SONS. LD. SHIP NO 230.

The amount of Entry Fee ^{2/3 1ST ENTRY} £ 80 : 17 : 0

Special **ELECT. WELD. CONST.** £ 5 : 10 : 0

AIR VESSEL £ 6 : 0 : 0

Donkey Boiler Fee ... £ : :

Travelling Expenses (if any) £ : : 19.

When applied for, **28 NOV 1949**

When received,

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

Committee's Minute **FRI. 31 MAR 1950**

Assigned *Su F.E. mchly rpt.*



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