

REPORT ON OIL ENGINE MACHINERY.

No. 21666.

Received at London Office

71 DEC 1941

Date of writing Report 1st DEC 1941 When handed in at Local Office 5th DEC 1941 Port of GREENOCK

No. in Survey held at GREENOCK Date, First Survey 6th MAY 1940 Last Survey 25-11-41 19
Reg. Book 5-44-26324 on the Single Screw vessel EMPIRE PICT Tons Gross 8145 Net 4743

Built at Glasgow By whom built Blythwood S.B.Co. Ltd Yard No. 64 When built 1941
Engines made at Greenock By whom made John G. Kincaid & Co. Ltd Engine No. 1134 When made 1941
Donkey Boilers made at Greenock By whom made John G. Kincaid & Co. Ltd Boiler No. 1134 When made 1941
Brake Horse Power 3300 Owners Ministry of War Transport Port belonging to Glasgow
Nom. Horse Power as per Rule 490 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended Ocean going

II ENGINES, &c. Type of Engines Diesel Overless injection Buchi Super 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 650 lbs Diameter of cylinders 7407 Length of stroke 15007 No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure 8.725 kg/cm² Flywheel dia. 24897 Weight 2.50 tons Means of ignition Compression Kind of fuel used Diesel Oil
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 10287 Is there a bearing between each crank Yes
Revolutions per minute 110 Crank pin dia. 5057 Crank Webs Mid. length breadth 8407 Thickness parallel to axis 3107
Crank Shaft, { Solid forged dia. of journals as per Rule as fitted 5057 Mid. length thickness 3107 Thickness around eye-hole 222.57
{ Semi built
{ All built
Flywheel Shaft, diameter as per Rule as fitted 13.287 Intermediate Shafts, diameter as per Rule as fitted 17 Thrust Shaft, diameter at collars as per Rule as fitted 13.951
Tube Shaft, diameter as per Rule as fitted 14.6 Screw Shaft, diameter as per Rule as fitted 17 Is the tube screw shaft fitted with a continuous liner Yes
Bronze Liners, thickness in way of bushes as per Rule as fitted .745 Thickness between bushes as per Rule as fitted .65625 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 Yes
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 Yes
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 shaft No If so, state type Yes Length of Bearing in Stern Bush next to and supporting propeller 5'8"

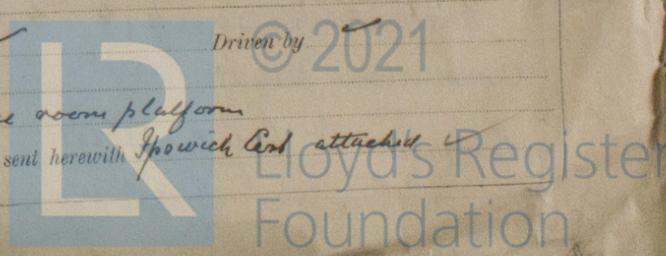
Propeller, dia. 15'9" Pitch 11'9" No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 83 sq. feet
Method of reversing Engines Compressed Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced
Thickness of cylinder liners 537 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 Yes
Cooling Water Pumps, No. Two 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. None Diameter Stroke Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line { No. and Size One @ 100 tons One @ 120 tons
{ How driven Steam Steam
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 Yes

Ballast Pumps, No. and size One @ 120 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One @ 90 tons/hr Main eng. One @ 100 tons/hr steam
Are 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 Three @ 3 1/2" Two @ 2 1/2" Cofferdam One @ 2 1/2" In Pump Room Yes
In Holds, &c. Two @ 2 1/2" Cofferdam two @ 3"
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two @ 5"
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes 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 Yes
Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes
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 Below
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 Yes
What pipes pass through the deep tanks None Have they 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 None Is it fitted with a watertight door Yes worked from Yes

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. Two No. of stages Two Diameters 4" 29/4" Stroke 7 1/2" Driven by Steam
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 Steam compressor
Scavenging Air Pumps, No. Diameter Stroke Driven by
Auxiliary Engines crank shafts, diameter as per Rule as fitted Spowich cert N° D4935 No. Position Engine room platform
Have the Auxiliary Engines been constructed under special survey Steam Eng N° 19012/3 Is a report sent herewith Spowich Cert attached

W1200-0073



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. *None* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*
 Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓*
Starting Air Receivers, No. *One* Total cubic capacity *750 cuft.* Internal diameter *6'-4"* thickness *1/32"*
 Seamless, lap welded or riveted longitudinal joint *TP 083* Material *S* Range of tensile strength *29/33* Working pressure by Rules *363 lbs*
 Actual *356 lbs*

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*

PLANS. Are approved plans forwarded herewith for Shafting *Yes* Receivers *Yes* Separate Fuel Tanks *Yes*
 (If not, state date of approval)
 Donkey Boilers *Yes* General Pumping Arrangements *24-10-39* Pumping Arrangements in Machinery Space *Yes*
 Oil Fuel Burning Arrangements *Yes*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*
 State the principal additional spare gear supplied

See separate list

The foregoing is a correct description,
 For JOHN G. KINCAID & CO. LIMITED.
McCarten Director. Manufacturer.

Dates of Survey while building
 During progress of work in shops - (1940) MAY 6-23 JUNE 5-10-26 JULY 15-23 AUG 6-9-12-15-20-31 SEPT 5-6-16-18-23-26 OCT 2-8-11-14-22-23-29 NOV 4-6-15-20-21 DEC 5-11-30 (1941) JAN 21 FEB 1-10-11-18-25-26
 During erection on board vessel - - - MAR 3-4-12-14-31 APR 16 MAY 5-10-18-23 AUG 6-20-22-25-24 SEPT 2-3-9-10-11-15-19-22-23-24-29 OCT 1-2-6-10-13-15-16-14-21-23-25-28 NOV 1-3-6-13-21-24-25
 Total No. of visits *81*

Dates of Examination of principal parts—Cylinders *20 Aug - 2 Sept '41* Covers *20 Aug - 2 Sept '41* Pistons *20 Aug '41* Rods *16 Oct '41* Connecting rods *16 Oct '41*
 Crank shaft *16 Oct '41* Flywheel shaft *✓* Thrust shaft *15 Sept '41* Intermediate shafts *15 Sept '41* Tube shaft *✓*
 Screw shaft *27 Aug '41* Propeller *27 Aug '41* Stern tube *12 Feb '41* Engine seatings *15 Sept '41* Engines holding down bolts *1 Nov '41*
 Completion of fitting sea connections *X* Completion of pumping arrangements *25 Nov '41* Engines tried under working conditions *25 Nov '41*
 Crank shaft, Material *S* Identification Mark *9172 CNH* Flywheel shaft, Material *✓* Identification Mark *✓*
 Thrust shaft, Material *S* Identification Mark *9172 CNH* Intermediate shafts, Material *S* Identification Marks *9172 CNH*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S* Identification Mark *9172 CNH*
 Identification Marks on Air Receivers *N° 1690*
LLOYD'S TEST
556 lbs
WP 356 lbs
CNH. 14-3-41

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 *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 *Yes* If so, state name of vessel *EMPIRE JET GPK 911 N° 21546*

General Remarks (State quality of workmanship, opinions as to class, &c.)
These engines have been built under special survey in accordance with the Rules and approved plans. The materials & workmanship are sound & good. This machinery has been efficiently installed on board and tested under full working conditions during a short sea trial with satisfactory results.
This machinery is eligible in my opinion to be classed in the Society's Register Book with Record + LMC 11-41 & Notation Screw Shaft CL. 208. 150 lbs
This being the last engine of this series, foregoing certificates for K131, 2, 3, 4, 8, 9, 40, 41, & 42, are enclosed.

The amount of Entry Fee ..	£ 5 : 0	When applied for,
Special ...	£ 98 : 10	5 th DECEMBER 1941
Donkey Boiler Fee ...	£ 22 : 2	When received,
AIR RECEIVER		
Travelling Expenses (if any)	£ 4 : 4	19

Committee's Minute **GLASGOW 9 - DEC 1941**
 Assigned *1- Dec 11. 41* *oil eng*
208 150 lb.

Charles J. Lamb
 Engineer Surveyor to Lloyd's Register of Shipping.
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GLASGOW

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