

REPORT ON OIL ENGINE MACHINERY.

No. 21284.
FEB 12 1941

Received at London Office

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

To. in Survey held at GREENOCK Date, First Survey 26th MARCH 1940 Last Survey 30th June 1941
eg. Book. Number of Visits 43

7765 on the Single }
Twin } Screw vessel SINGLE SC "DENBYDALE"
Triple }
Quadruple }

Tons { Gross 8000
Net 7236

built at GLASGOW By whom built BLYTHSWOOD SHIP CO LTD Yard No. 62 When built 1940

Engines made at GREENOCK By whom made J. G. KINCAID & CO LTD Engine No. 132 When made 1941

Donkey Boilers made at GREENOCK By whom made J. G. KINCAID & CO LTD Boiler No. 132 When made 1941

Brake Horse Power 3300 Owners MINISTRY OF SHIPPING 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

ENGINES, &c. Type of Engines Diesel Airless injection Buchi Supch 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 650 lbs Diameter of cylinders 740 7/8 Length of stroke 1500 7/8 No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 8.725 kg/cm² Is there a bearing between each crank Yes

Revolutions per minute 110 Flywheel dia. 2489 7/8 Weight 2.50 tons Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, { Solid forged }
Semi built } dia. of journals as per Rule 505 7/8 as fitted 505 7/8 Crank pin dia. 505 7/8 Crank Webs Mid. length breadth 540 7/8 Mid. length thickness 310 7/8 Thickness parallel to axis 310 7/8
All built } shrunken Thickness around eye-hole 222.5 7/8

Flywheel Shaft, diameter as per Rule 13.287" as fitted 17" Intermediate Shafts, diameter as per Rule 13.287" as fitted 17" Thrust Shaft, diameter at collars as per Rule 13.951" as fitted 17"

Stern Tube Shaft, diameter as per Rule 14.60" as fitted 17" Is the { tube } shaft fitted with a continuous liner { screw } Yes

Bronze Liners, thickness in way of bushes as per Rule .745" as fitted .875" Thickness between bushes as per Rule .559" as fitted .32" 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

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 5'-8"

Propeller, dia. 15'-9" Pitch 11'-9" No. of blades 4 Material Mang 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 53 7/8 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Yes 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. 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

Pumps connected to the Main Bilge Line { No. and Size One 7x8x8"-100 tons/hr One 8x8x10"-120 tons/hr
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 Ballast Pumps, No. and size One 120 tons/hr Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two Main Eng 90 tons/hr Spare 100 tons/hr

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 3 @ 3 1/2" 2 @ 2 1/2" Cofferdam 1 @ 2 1/2" In Pump Room

In Holds, &c. 2 @ 2 1/2" Cofferdam 2 @ 3 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 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

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

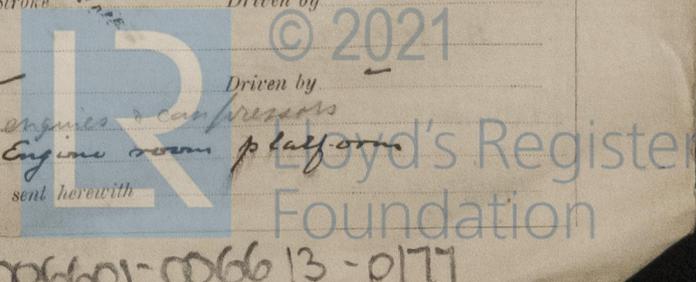
Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one

compartment to another Yes Is the Shaft Tunnel watertight None 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. Two No. of stages Two Diameters 4'-9 1/4" 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 Spowick Cent N° D3838 as fitted Comp N° 65996/7 Position No. 1 steam engines & compressors Engine room platform
Have the Auxiliary Engines been constructed under special survey Eng N° 19008/9 Is a report sent herewith



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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 *✓*
 Starting Air Receivers, No. *One* ✓ Total cubic capacity *750 cu ft.* ✓ Internal diameter *6'-4"* ✓ thickness *1/32* ✓
 Seamless, lap welded or riveted longitudinal joint *79 DBS* ✓ Material *S* ✓ Range of tensile strength *29/33* ✓ Working pressure *by Rules 365 lb*
 Actual *356 lb*

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*

PLANS. Are approved plans forwarded herewith for Shafting *5-10-39* Receivers *23-10-39* Separate Fuel Tanks *17-4-40*
 (If not, state date of approval)
 Donkey Boilers *16-10-39* General Pumping Arrangements *24-10-39* Pumping Arrangements in Machinery Space *12-2-40*
 Oil Fuel Burning Arrangements *2-4-40*

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.

W. Carter Director. Manufacturer.

Dates of Survey while building
 During progress of work in shops - (1940) MAR. 26 APR. 10-23 MAY 6-24 JUNE 3-5-6-7-26 JULY 2-5-8-10-15-18-23-26 AUG. 1-8-9-12-13-15-20-21-23-27-31. SEPT. 1-5-14-18-23. OCT. 8-10-11-12
 During erection on board vessel - 15-16-17-19-21-23-29. NOV. 1-2-6-7-21-26-24-29. DEC. 2-3-4-10-12-16-17-18-20-23-26-30. (1941) JAN. 8-11-14-16-27-29-30.
 Total No. of visits *43.*

Dates of Examination of principal parts—Cylinders *3-6-40* Covers *3-6-40* Pistons *26-6-40* Rods *8-10-40* Connecting rods *8-10-40*
 Crank shaft *10-10-40* Flywheel shaft *✓* Thrust shaft *10-40* Intermediate shafts *5-10-40* Tube shaft *✓*
 Screw shaft *8-10-40* Propeller *8-10-40* Stern tube *26-7-40* Engine seatings *15-10-40* Engines holding down bolts *23-12-40*
 Completion of fitting sea connections *18-10-40* Completion of pumping arrangements *30-1-41* Engines tried under working conditions *30-1-41*

Crank shaft, Material *S* Identification Mark *9170 CNH* Flywheel shaft, Material *✓* Identification Mark *✓*
 Thrust shaft, Material *S* Identification Mark *9120 CNH* Intermediate shafts, Material *S* Identification Marks *9120 CNH*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *S* Identification Mark *9171 CNH*

Identification Marks on Air Receivers
N° 1540
2 L 40405 TEST
556 lb / 1"
WP 356 lb / 1"
CNH. 11-10-40

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 *DARKDALE GRK 27' N° 21159.*

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. The machinery has been efficiently installed on board & tested under full working conditions with satisfactory results, on a short sea trial.
This machinery is eligible in my opinion to be classed in the Register Book with notation + LMC 1-41 and Notation Screw Shaft C.L. 2 DBs 150 lbs / 1"

The amount of Entry Fee .. £ 5 : 0 :
 Special £ 98 : 10 :
 Donkey Boiler Fee ... £ 22 : 2 :
 AIR RECEIVER 4 : 4 :
 Travelling Expenses (if any) £ : :
 When applied for, *7th FEBY 1941*
 When received, *19*

Charles W. Hunter
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 11 FEB 1941**
 Assigned *1- Curc 1.41* *oil Eng.*
2 DB 150 lb



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