

REPORT ON OIL ENGINE MACHINERY.

No. 9911 MAR 6 1940

Received at London Office

Date of writing Report 11 FEB 1940 When handed in at Local Office 4-3-40 Port of MANCHESTER

No. in Survey held at Reg. Book. MANCHESTER Date, First Survey 22 NOVEMBER 1940 Last Survey MAR 4 1940 Number of Visits 5

on the Single Triple Quadruple Motor Screw vessel "NORTHGATE" Tons Gross 428.63 Net 223.61

Built at Willington Quay-on-Tyne By whom built CLELANDS SUCCESSORS LTD Yard No. 54 When built 1940

Engines made at MANCHESTER By whom made CROSSLEY BROS. LTD Engine No. 20067 When made 1940

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

Brake Horse Power 350 Owners Port belonging to Hull

Nom. Horse Power as per Rule 115 116 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended COASTING VESSEL

OIL ENGINES, &c. Type of Engines VERTICAL SOLID INJECTION 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 690 LBS/SQ IN Diameter of cylinders 10 1/2 Length of stroke 13 1/2 No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 70 LBS/SQ IN Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 14 11/16 Is there a bearing between each crank YES

Revolutions per minute 325 Flywheel dia. 37 1/2 Weight 2166 LBS Means of ignition COMPRESSION Kind of fuel used HEAVY OIL

Crank Shaft, Solid forged Semi built All built dia. of journals as per Rule APPROVED as fitted 7 1/2 Crank pin dia. 1 1/4 Crank Webs Mid. length breadth 5 1/4 Thickness parallel to axis SOLID Mid. length thickness 3 23/32 shrunk Thickness around eyehole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted APPROVED 4 3/4

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per Rule as fitted Is the after end of the liner made watertight in the propeller boss

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

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when detached YES Means of lubrication

FORCED Thickness of cylinder liners 1 Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with non-conducting material

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. ONE 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 4 1/4 Stroke 3 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 TWO 13/8 x 2 STROKE 13/4 x 2 STROKE

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

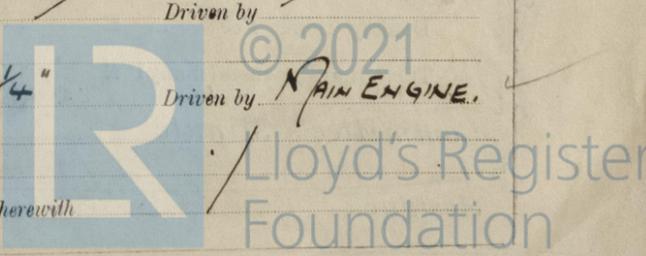
Main Air Compressors, No. ONE No. of stages TWO Diameters 5 3/4 & 2 1/2 Stroke 4 Driven by MAIN ENGINE

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. ONE, D.A. TANDEM Diameter 20 1/2 Stroke 9/4 Driven by MAIN ENGINE

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position Is a report sent herewith



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. TWO Total cubic capacity 30. CUB. FT Internal diameter 24 1/8" thickness 15/32"

Seamless, lap welded or riveted longitudinal joint RIVETED & WELDED Material STEEL Range of tensile strength _____ Working pressure by Rules APPROVED Actual 350 LBS/SQ.

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 **YES** 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 _____

The foregoing is a correct description,
CROSSLEY BROTHERS LIMITED,
Manchester Manufacturer.

Dates of Survey while building: During progress of work in shops-- 1939 Nov. 22, Dec 6, 1940 JAN 25, FEB 1, MAR 4

During erection on board vessel-- 5.

Total No. of visits 5.

Dates of Examination of principal parts—Cylinders 22-11-39 Covers 22-11-39 Pistons 22-11-39 Rods — Connecting rods 22-11-39

Crank shaft 22-11-39 Flywheel shaft — Thrust shaft 25-1-40 Intermediate shafts — Tube shaft —

Screw shaft — 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 O.H. STEEL Identification Mark 1040S. 906.4cc. 12-1/2" Flywheel shaft, Material _____ Identification Mark _____

Thrust shaft, Material O.H. STEEL Identification Mark 1040S. 1003.4cc. 17-0-38" Intermediate shafts, Material _____ Identification Marks _____

Tube shaft, Material _____ Identification Mark _____ Screw shaft, Material _____ Identification Mark _____

Identification Marks on Air Receivers _____

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 _____

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 _____ If so, state name of vessel _____

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

THIS ENGINE HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY OF TESTED MATERIALS AND IS IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND RULE REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE OF A GOOD QUALITY AND THE ENGINE WHEN TESTED IN SHOP UNDER FULL LOAD CONDITIONS SHOWN SATISFACTORY RESULTS. IN MY OPINION THIS ENGINE IS SUITABLE FOR THE PURPOSE INTENDED AND WHEN SATISFACTORILY INSTALLED ON BOARD AND REPORTED UPON BY THE SOCIETY'S SURVEYORS WILL BE ELIGIBLE TO HAVE THE NOTATION OF

✦ LLOYD'S MACHINERY CERTIFICATE (WITH DATE)

The amount of Entry Fee .. £ 3 : 0 : 0 When applied for, 2-3-1940

2/3 Special £ 19 : 3 : 0

Donkey Boiler Fee £ : : : When received, as per receipts by Mr. H. J. ...

Travelling Expenses (if any) £ : 12 : 0

FRI 24 JAN 1941

J. M. Leicester
 Engineer Surveyor to Lloyd's Register of Shipping.

This machinery has been satisfactorily installed aboard the motor vessel "Northgate", examined under full working conditions with satisfactory results & is eligible in my opinion to be classed with notation L 172141 oil engine, 0.4 h.p.

H. J. ...

Committee's Minute

Assigned See Note J.C. 99121

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