

# REPORT ON OIL ENGINE MACHINERY.

No. 59337

Received at London Office 11 JUL 1953

Date of writing Report 20th May 1953 When handed in at Local Office 19 Port of HULL

No. in Survey held at GOOLE Date, First Survey 4. 2. 53 Last Survey 19. 5. 19 53  
 Reg. Book. Number of Visits 21

96153 (In on the ~~Book~~ <sup>Single</sup> ~~Triple~~ <sup>Quad</sup> Suppmt) Screw vessel Motor Trawler "NORDELITE" Tons { Gross 219 Net -

Built at GOOLE By whom built Goole S.B. & Rep. Co., Ltd. Yard No. 486 When built 1953

Engines made at Manchester By whom made Crossley Bros., Ltd. Engine No. 14501 When made 1952

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

Brake Horse Power { Maximum Designed 600 BHP @ 500 RPM Owners North Eastern Industries, Ltd. Port belonging to St. JOHNS  
 Service 450 BHP @ 310 RPM

M.N. as per Rule - Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted Yes

Trade for which vessel is intended Ocean going trawler..

OIL ENGINES, &c. - Type of Engines Crossley HRN 6 Vertical Heavy Oil 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders No. of cranks

Mean Indicated Pressure Span of bearings (i.e., distance between inner edges of bearings in way of a crank) Is there a bearing between each crank Revolutions per minute { Maximum Service

Flywheel dia. Weight Moment of inertia of flywheel (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) Means of ignition Kind of fuel used

" " " " balance wts. ( " " " " )

Crank Shaft, { Solid forged dia. of journals as per Rule  
 Semi built as fitted  
 All built

Crank pin dia. Crank webs Mid. length breadth shrunk Thickness parallel to axis  
 Mid. length thickness

Flywheel Shaft, diameter as per Rule Appd. Intermediate Shafts, diameter as fitted 4 5/8" Thrust Shaft, diameter at collars as fitted

Tube Shaft, diameter as per Rule Appd. Screw Shaft, diameter as fitted 5 1/2" at top Is the screw shaft fitted with a continuous liner { No

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes 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 fitted at the after end of stern tube Yes If so, state type NEWARK Length of bearing in Stern Bush next to and supporting propeller 32"

Propeller, dia. 5' 9" Pitch 4' 1 1/2" No. of blades 4 Material Cast Iron whether moveable Fixed Total developed surface 13 sq. feet

Moment of inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg. cm.<sup>2</sup>) Kind of damper, if fitted None

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine Means of lubrication Thickness of cylinder liners Are the cylinders fitted with safety valves 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. and how driven 1 F.W: 1 S.W: M. Eng. driven Working F.W. 1 off 4 1/4" x 3  
 1 S.W: driven by Aux. Eng.

S.W. 1 off 4 1/4" Spare F.W. None S.W. 50 T/Hr Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps X 3 worked from the Main Engines, No. and capacity None (used for S.W. cooling) an one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and capacity of each 1 off 50 T/Hr 1 off 16.5 T/Hr  
 How driven Aux. Diesel E.M.

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 capacity None Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2. 1 off 910 G.P.H. 1 off 1488 "

Are two independent means arranged for circulating water through the Oil Cooler Yes Branch Bilge Suctions In pump room

No. and size: - In machinery spaces One off 2 1/2" In holds, &c. One x 2 1/2" One x 2"

Direct Bilge Suctions to the engine room bilges, No. and size 1 x 2 1/2" : 1 x 3" Emergency : 1 x 2" (Hand pump)

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes at 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/On fabricated pieces distance they fitted with valves or cocks Valves 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 None

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 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. One See Manchester F.E. Rpt. No. 15244 diameters stroke driven by M. Eng.

Auxiliary Air Compressors, No. One See London F.E. Rpt. No. 125418 diameters stroke driven by Aux. Diesel

Small Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

What provision is made for first charging the air receivers By hand started Auxiliary Unit - as above -

Scavenging Air Pumps or Blowers, No. One How driven M. Eng. - See Mch. F.E. Rpt. No. 15244 Engine Nos. 30CL445

Auxiliary Engines Have they been made under survey Yes Makers name Russell Newbury Position of each in engine room S.S. ENG. Room

Report No. Lon. F.E. Rpt. No. 125418  
 011057 - 011061 - 0329

**AIR RECEIVERS:**—Have they been made under survey Yes ✓ State No. of report or certificate \_\_\_\_\_  
 State full details of safety devices \_\_\_\_\_  
 Can the internal surfaces of the receivers be examined and cleaned \_\_\_\_\_ Is a drain fitted at the lowest part of each receiver \_\_\_\_\_  
 Injection Air Receivers, No. None ✓ Cubic capacity of each \_\_\_\_\_ Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_  
 Seamless, welded or riveted longitudinal joint \_\_\_\_\_ Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure \_\_\_\_\_  
 Starting Air Receivers, No. Two Total cubic capacity \_\_\_\_\_ Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_  
 Seamless, welded or riveted longitudinal joint \_\_\_\_\_ Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure \_\_\_\_\_

**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 Appd. Manchester Receivers Appd. Manchester Separate fuel tanks 1.4.5.  
 (If not, state date of approval)  
 Donkey boilers \_\_\_\_\_ General pumping arrangements 2.5.52 Pumping arrangements in machinery space 1.8.52  
 Oil fuel burning arrangements \_\_\_\_\_

Have Torsional Vibration characteristics been approved Yes Date and particulars of approval 21.2.52 & 28.4.53  
**SPARE GEAR.** For service speed of 310 RPM provided minimum engine speed ~~XXXX~~ is restricted to 100 RPM.  
 Has the spare gear required by the Rules been supplied Yes, with additions for "short voyages" only \_\_\_\_\_  
 State the principal additional spare gear supplied \_\_\_\_\_

FOR THE GOOLE SHIPBUILDING & REPAIRING CO. LTD.

The foregoing is a correct description, Y. Maddick Manufacturer. Director

Dates of Survey while building  
 During progress of work in shops - - 1953.  
 During erection on board vessel - - Feb. 4, 13; March 16, 18, 25, 27, 31; Apl. 8, 10, 15, 20, 22, 24, 29; May 1, 4, 5, 8, 11, 15, 19.  
 Total No. of visits 21.

Dates of examination of principal parts—Cylinders - Covers - Pistons - Rods - Connecting rods -  
 Crank shaft - Flywheel shaft - See Mch. F. E. Rpt. No. 15244 Thrust shaft - Intermediate shafts 22.1.53 Tube shaft -  
 Screw shaft 11.2.53 Propeller 11.2.53 Stern tube 21.1.53 Engine seatings 13.2.53 Engine holding down bolts 31.3.53  
 Completion of fitting sea connections 13.2.53 Completion of pumping arrangements 11.5.53 Engines tried under working conditions 19.5.53

Crane shaft, material - Identification mark - Flywheel shaft, material - Identification mark - Lloyd's W. 964 12.12.52  
 Thrust shaft, material - See Mch. Rpt. F. E. No. 15244 Identification mark - Intermediate shafts, material Steel Identification marks IB 28.1.53  
 Tube shaft, material - Identification mark - Screw shaft, material Steel Identification mark IB 11.2.53  
 Identification marks on air receivers Nos. T264/258: 81-520100: Lloyd's Test 700 lb. sq. inch: WP 350 lb. sq. in. 16.7.52 TDS

Welded receivers, state Makers' Name as per Manchester F. E. Rpt. No. 15244  
 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 ✓  
 Full description of fire extinguishing apparatus fitted in machinery spaces 2 x 2 gall chemical; one x 30' canvas hose with jet & spray nozzles  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No ✓ If so, have the requirements of the Rules been complied with \_\_\_\_\_  
 What is the special notation desired None ✓  
 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, Speed restrictions, &c.)  
 The Machinery which has been constructed under Special Survey in accordance with the Rules, approved Plans and Secretary's letters, has been efficiently secured in position in this vessel tried under full power conditions and found satisfactory. Materials and workmanship are good. Eligible in my opinion, to be classed in the Register Book with record \*LMC 5.53 and Notation T SOG "Oil Engines" with Torsional Endorsement.

**NB:-** A suitable notice has been fitted at the control station stating that the Main Engine is not to be run continuously below 100 R.P.M., the tachometer marked accordingly. Special arrangements have been made by the Engine Builders to limit the minimum Engine speed to 100 R.P.M. in service.

The amount of Entry Fee ... £ 20 : 0 : 0 1.6.53  
 Special ... £ : : When applied for 19  
 Donkey Boiler Fee... £ : : When received 19  
 Travelling Expenses (if any) £ 9 15 : 0

H. C. Jones  
 Engineer Surveyor to Lloyd's Register of Shipping.  
 Lloyd's Register Foundation

Committee's Minute FRIDAY 31 JUL 1953  
 Assigned + LMC 5.53 Oil Eng.  
OB. (with torsional endorsement)

The Surveyors are requested not to write on or below the space for Committee's Minute.