

REPORT ON OIL ENGINE MACHINERY.

No. 16000

Received at London Office 31 AUG 1950

Date of writing Report 19... When handed in at Local Office 29. 8. 1950 Port of Glasgow

No. in Survey held at Clydebank Date, First Survey 10th Jan 1949 Last Survey 18 August 1950
Reg. Book. Number of Visits 23

95005 on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel "OTTAWA" Tons Gross 11575 Net 7569

Built at Clydebank By whom built John Brown & Co. Ltd. Yard No. 654 When built 1950-8

Engines made at Clydebank By whom made John Brown & Co. Ltd. Engine No. 654 When made 1950

Donkey Boilers made at Clydebank By whom made John Brown & Co. Ltd. Boiler No. 654 When made 1950

Brake Horse Power 6,500 Owners Unitas, Inc. Port belonging to Panama City

M.N. Power as per Rule 1326 NHP = 1264 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which vessel is intended Oil Tanker

OIL ENGINES, &c. - Type of Engines Oxford Approved Piston 2 or 4 stroke cycle 2sc Single or double acting SA

Maximum pressure in cylinders 568 lb/sq. in. Diameter of cylinders 725 mm Length of stroke 2250 mm No. of cylinders 5 No. of cranks 5

Mean Indicated Pressure 89 lb/sq. in. Ahead Firing Order in Cylinders 1, 3, 5, 4, 2 Span of bearings, adjacent to the crank, measured

Centres of side rods 1410 mm Is there a bearing between each crank yes Revolutions per minute 120

Flywheel dia. 2362 mm Weight 10000 lbs Moment of inertia of flywheel (lbs. in² or Kg. cm²) 0.275 ft² sec² Means of ignition Capacitor Kind of fuel used Diesel

Crank Shaft, Solid forged dia. of journals as per Rule approved 560 mm Crank pin dia. 560 mm Crank webs Mid. length breadth 1040 mm Thickness parallel to axis 315 mm

Flywheel Shaft, diameter as per Rule approved 23" Intermediate Shafts, diameter as fitted 23" Thrust Shaft, diameter at collars as per Rule approved

Tube Shaft, diameter as per Rule approved 23" Is the tube shaft fitted with a continuous liner yes

Bronze Liners, thickness in way of bushes as per Rule 1" Thickness between bushes as fitted 1" Is the after end of the liner made watertight in the propeller boss 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

Propeller, dia. 18'-0" Pitch 13'-9" No. of blades 3 Material Mn Bronze whether moveable no Total developed surface 122 sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm²) 7.41 ton ft² sec² Kind of damper, if fitted "Bibby" Detuner

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when de-clatched yes

Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled

Cooling Water Pumps, No. 25 Is the sea suction provided with an efficient strainer which can be cleared within the vessel no

Bilge Pumps worked from the Main Engines, No. 2 Diameter 10" Stroke 12" Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line No. and size 2 @ 100 tons/hr. How driven 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 1 @ 100 tons/hr. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2 @ 10" x 9" x 24"

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: 3 @ 4"; D.B. cofferdam 1 @ 4"

In holds, &c. For d. store 2 @ 3" for hold 2 @ 2" for d. 2 aft deep cofferdams 1 @ 4"

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 @ 6", 1 @ 7", 2 @ 2" (gutter)

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes yes Are the bilge suction pipes 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 Both

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

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. 2 No. of stages 3 diameters 12", 10", 3" stroke 7" driven by Steam

Auxiliary Air Compressors, No. 1 No. of stages 1 diameters 4" stroke 14" driven by Main engine

Small Auxiliary Air Compressors, No. 1 No. of stages 1 diameters 4" stroke 14" driven by Main engine

What provision is made for first charging the air receivers Steam driven compressors

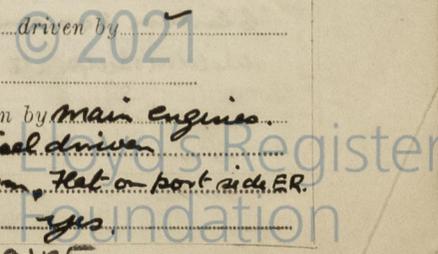
Scavenging Air Pumps, No. 1 diameter 1872 mm stroke 1430 mm driven by Main engine

Auxiliary Engines crank shafts, diameter as fitted 85 mm diesel driven Position Port side bottom platform, flat on port side ER

Have the auxiliary engines been constructed under special survey yes Is a report sent herewith yes

003687-003697-0185

EW 14/9/50



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* ✓
 Whistle *Injection* Air Receivers, No. *1* ✓ Cubic capacity of each... *30 cu ft.* Internal diameter... *2'4"* thickness... *7/16"*
 Seamless, welded or riveted longitudinal joint... *yes* Material... *Steel* Range of tensile strength... *28/32 tons* Working pressure... *250 lb*
 Starting Air Receivers, No. *2* ✓ Total cubic capacity... *600 cu ft.* Internal diameter... *5-4 1/2"* thickness... *1 1/2"*
 Seamless, welded or riveted longitudinal joint... *Welded* Material... *Steel* Range of tensile strength... *28 1/2 tons* Working pressure... *600 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... *14.10.48* Receivers... *14.5.48* Separate fuel tanks... *28.2*
 (If not, state date of approval) Donkey boilers... *23.6.48* General pumping arrangements... *26.6.48* Pumping arrangements in machinery space... *28.5.48*
 Oil fuel burning arrangements... *26.7.48*

Have Torsional Vibration characteristics been approved... *yes* ✓ Date of approval... *14.10.48*
SPARE GEAR.

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

John Brown & Company, Limited.

The foregoing is a correct description,
 Secretary, Manufacturer.

Dates of Survey while building
 During progress of work in shops - - 1949 Jan. 10, 21, 24, 26 Feb. 25 Mar. 2, 4, 20, 29 May 16, 20, 23, 30 Jun. 1, 3, 6, 20 Jul. 27 Aug. 17, 19, 21 Sept. 7, 9, 14, 14, 28 Oct. 3, 5, 10, 17, 26, 28, 31 Nov. 4, 7, 11, 16, 23, 29 Dec. 7, 9, 16, 19, 21, 29, 30 1950 11, 16, 18, 20, 23, 27, 30 Feb. 1, 3, 8, 9, 15, 20, 22, 24 Mar. 1, 3, 8, 15, 17, 23, 24, 26
 During erection on board vessel - - 1950 May 4, 19, 26, 29, 31 Jun. 2, 5, 12, 14, 19, 21, 23, 26, 28, 29 Jul. 1, 19, 20, 21, 24, 26, 27, 28, 31 Aug. 1, 2, 3, 4, 7, 9, 11, 14, 16, 17, 18
 Total No. of visits... *123*

Dates of examination of principal parts—Cylinders... *7.3.50 to 5.4.50* Covers... ✓ Pistons... *20.3.50 to 5.5.50* Rods... *20.3.50 to 3.3.50* Connecting rods... *18.5.50 to 21.4*
 Crank shaft... *10.5.50* Flywheel shaft... ✓ Thrust shaft... *10.5.50* Intermediate shaft... *26.4.50* Tube shaft... ✓
 Screw shaft... *26.4.50* Propeller... *21.4.50* Stern tube... *26.4.50* Engine seatings... *15.5.50* Engine holding down bolts... *28.6.50*
 Completion of fitting sea connections... *15.5.50* Completion of pumping arrangements... *14.8.50* Engines tried under working conditions... *18.8.50*
 Crank shaft, material... *Steel* Identification mark... *20666* Flywheel shaft, material... ✓ Identification mark... ✓
 Thrust shaft, material... *Steel* Identification mark... *S3426* Intermediate shaft, material... *Steel* Identification marks... *S2436*
 Tube shaft, material... ✓ Identification mark... ✓ Screw shaft, material... *Steel* Identification mark... *S2684*
 Identification marks on air receivers... *N2 654* LLOYD'S TEST 950 lb/in² W.P. 600 lb/in² T.D.S. D.M.
N2 654 LLOYD'S TEST 425 lb/in² W.P. 250 lb/in² T.D.S. 173-50.

Welded receivers, state Makers' Name... *John Brown & Co. Ltd.*
 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*
 Description of fire extinguishing apparatus fitted... *Chemical. As approved.*
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... *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... *"VIKFOSS" G/S Rept N° 75347.*

General Remarks (State quality of workmanship, opinions as to class, &c. *This machinery has been constructed under Special Survey in accordance with the approved plans & the requirements of the Rules. The materials & workmanship are good.*
The machinery has been efficiently installed on board the vessel & tried under full working conditions at sea with satisfactory results & is eligible, in my opinion, to be classed with record of +LMC 8.50 & notations 2DB 180 lb., C.L., Oil Eng.

The amount of Entry Fee... £ *307* : 12 ✓
 Welded Air Receivers Special... £ *16* : 0 ✓
 Donkey Boiler Fee... £ *69* : 16 ✓
 Clarkson Economiser... £ *12* : 0 ✓
 Travelling Expenses (if any) £ *22* : 5 ✓
 Committee's Minute... *GLASGOW 30 AUG 1950*

When applied for... 19
 When received... 19

J.W. Skilton
 Engineer Surveyor to Lloyd's Register of Shipping.

Assigned... *+ LMC 8.50 Oil Engine*



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