

REPORT ON OIL ENGINE MACHINERY.

No. 105978

Received at London Office 21 MAY 1948
NEWCASTLE-ON-TYNE

Date of writing Report 18.5 1948 When handed in at Local Office 18.5 1948 Port of NEWCASTLE & HEBBURN-ON-TYNE
 Date, First Survey 1.11.46 Last Survey 13.5 1948
 Number of Visits 96
 Name of vessel M.V. LABIOSA
 Type of vessel Single Screw vessel
 Tons Gross 6473.36
 Net 3604.00
 Name of yard R.W. HAWTHORN LESLIE & Co. L^{td} Yard No. 692 When built 1948
 Name of maker R.W. HAWTHORN LESLIE & Co. L^{td} Engine No. 4047 When made 1948
 Name of boiler maker NORTH EASTERN MARINE ENG. CO. (1938) L^{td} Boiler No. 3161 When made 1947
 Indicated Horse Power 2800 Owners THE ANGLIO-SAXON PETROLEUM CO. L^{td} Port belonging to LONDON
 Net Horse Power as per Rule 566 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended OPEN SERVICE

ENGINES, &c. — Type of Engines HAWTHORN WERKSPOOK SUPERCHARGED 2 or 4 stroke cycle 4 Single or double acting SINGLE
 Maximum pressure in cylinders 700 lbs/sq Diameter of cylinders 25 7/16" Length of stroke 55 1/8" No. of cylinders 6 No. of cranks 6
 Mean Indicated Pressure 135 lbs/sq Diameter of bearings, adjacent to the crank, measured from inner edge to inner edge 844 Is there a bearing between each crank Yes
 Revolutions per minute 120 Flywheel dia. 2260 Weight 6.3 TONS Means of ignition COMPRESSION Kind of fuel used CRUICK & DIESEL OIL
 Crankshaft: dia. of journals as per Rule 442 as fitted 460 Crank pin dia. 460 Crank webs Mid. length breadth 870 Mid. length thickness 267 Thickness parallel to axis 267 Thickness around eye-hole 204
 Flywheel Shaft, diameter as per Rule 340 as fitted 340 Intermediate Shafts, diameter as per Rule 312 as fitted 350 Thrust Shaft, diameter at collars as per Rule 328 as fitted 340
 Propeller Shaft, diameter as per Rule 342 as fitted 370 Is the (tube/screw) shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 18.5 as fitted 20 Thickness between bushes as per Rule 13.3 as fitted 15 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 tube shaft No
 Propeller, dia. 14'0" Pitch 11'9" No. of blades 4 Material MANE BRONZE whether moveable No Total developed surface 62 sq. feet
 Method of reversing Engines AUX SERV MOTOR Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication FORCED
 Thickness of cylinder liners 55 Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled Yes
 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 LED OVERBOARD
 Cooling Water Pumps, No. FOUR 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. ONE Diameter ROTARY Stroke ROTARY Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line: No. and size THREE ONE ROTARY 28 TONS/HK ONE BALLAST 100 TONS/HK ONE BILGE 32 TONS/HK
 How driven MAIN ENGINE 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 None
 Ballast Pumps, No. and size ONE 100 TONS/HK Power Driven Lubricating Oil Pumps, including spare pump, No. and size ONE MAIN ENGINE 40 TONS/HK ONE STANDBY 50 TONS/HK
 Are there 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 EACH 3" DIAMETER In pump room ONE 2" DIAMETER
 Holds, &c. FORE HOLD TWO 2 1/2" DIA. FOR STOLE TWO 2" DIA. FOR COFFERDAM ONE 4" DIA. AFT COFFERDAM ONE 4" DIA.
 Independent Power Pump Direct Suctions to the engine room bilges, No. and size THREE ONE 7" DIA. ONE 5" DIA. ONE 3" DIA.
 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 fixed efficiently 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 Yes
 What pipes pass through the bunkers ONE 4" AFT COFFERDAM SUCTION How are they protected None
 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 None
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork None
 Main Air Compressors, No. NONE No. of stages None diameters None stroke None driven by None
 Auxiliary Air Compressors, No. TWO No. of stages TWO diameters ONE 80 cu ft PER MINUTE ONE 120 cu ft PER MINUTE driven by AUX DIESEL ENGINE STEAM ENGINE
 Small Auxiliary Air Compressors, No. None No. of stages None diameters None stroke None driven by None
 What provision is made for first charging the air receivers AUXILIARY STEAM OR OIL ENGINE DRIVEN COMPRESSOR
 Scavenging Air Pumps, No. NONE diameter None stroke None driven by None
 Auxiliary Engines crank shafts, diameter as per Rule JOURNALS 4 3/8" PIPS 3 1/4" (AUX DIESEL ENGINE) Position ONE SINGLE CYLINDER ENCLOSED STEAM ENGINE DRIVING DYNAMO ONE 4 CYL 45CSA AUX DIESEL ENGINE DRIVING DYNAMO
 Have the auxiliary engines been constructed under special survey AUX DIESEL ENGINE Is a report sent herewith AUX DIESEL ENGINE

005424-005435-0024

AIR RECEIVERS:—Have they been made under survey *Ex M.V. CLAM* ✓ 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 ✓
Starting Air Receivers, No. *ONE* ✓ Total cubic capacity *46.2 cu ft* Internal diameter *PLEASE SEE M.V. CLAM FIRST ENTRY REPORT* ✓
 Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓
 Actual *38*

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 *YES* ✓ (If not, state date of approval) Receivers ✓ Separate fuel tanks ✓
 Donkey boilers ✓ General pumping arrangements ✓ 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 *AS PER ATTACHED LIST* ✓

TORSIONAL CHARACTERISTICS APPROVED SEE LONDON LETTER OF 7.11.46. Service Speed 11.5 RPM.

The foregoing is a correct description, AND THE PARTICULARS OF THE INSTALLATION AS FITTED ARE AS APPROVED
AS PER ATTACHED LIST. Manufacturer. *FOR TORSIONAL VIBRATION CHARACTERISTICS.*

Dates of Survey while building	During progress of work in shops -	1946 NOV. 1, 5, 11, 14, 17, 21, 24, 28, 31, 1947 JAN. 3, 21, FEB. 3, 17, 18, MAR. 4, 18, 25, APR. 2, 14, MAY. 2, 5, 7, 13, 16, 19, 22, 27, JUNE. 11, 12, 16, 19, 23, 26, 30, JULY. 3, 16, 26, 31, AUG. 6, 13, 15, 25, 27, SEPT. 1, 2, 10, 16, 18, 22, 26, OCT. 6, 8, 17, 21, 29 NOV. 3, 5, 6, 12, 17, 18, DEC. 1, 9, 10, 11, 12, 1948 JAN. 5, 7, 9, 13, 15, 19, 26, 30, FEB. 2, 19, 24, 27, MAR. 3, 4, 11, 16, 20, 31, APR. 7, 12, 13, 19, 20, 26, 28, 29, MAY. 3, 5, 6, 7, 10, 12, 13.
	During erection on board vessel -	
	Total No. of visits.	<i>96.</i>

Dates of examination of principal parts—Cylinders *16.6.47* Covers *16.6.47* Pistons *16.5.47* Rods *3.9.47* Connecting rods *30.6.47*
 Crank shaft *10.9.47* Flywheel shaft *17.11.47* Thrust shaft *11.6.47* Intermediate shafts *10.12.47* Tube shaft ✓
 Screw shaft *29.10.47* Propeller *29.10.47* Stern tube *1.12.47* Engine seatings ✓ Engine holding down bolts *27.2.48*
 Completion of fitting sea connections *19.1.48* Completion of pumping arrangements *12.5.48* Engines tried under working conditions *12.5.48*
 Crank shaft, material *SM OH STEEL*. Identification mark *F3455 Lotus #16670 H.A.I. 17.7.47* Flywheel shaft, material *SM OH STEEL*. Identification mark *F3449 Lotus #16049 H.A.I. 20.4.47*
 Thrust shaft, material *SM OH STEEL*. Identification mark *F3450 Lotus #16049 H.A.I. 26.3.47* Intermediate shafts, material *SM OH STEEL*. Identification marks *F3459 Lotus #16049 H.A.I. 2.4.47*
 Tube shaft, material ✓ Identification mark ✓ Screw shaft, material *SM OH STEEL*. Identification mark *F3458 Lotus #16049 H.A.I. 20.4.47*
 Identification marks on air receivers *LLOYDS TEST 650 LBS WP 450 LBS FWB 11.2.26. RETESTED 110-105 TEST 550 LBS WP 350 LBS T.A.O. 16.9.47 200.*

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 *1-10 GALL FORTITE PORTABLE FIRE EXTINGUISHER IN ENGINE ROOM. BOTTOM PLATE. BOILER ROOM WITH LONG HOSE. IN MACHINERY SPACES. STEAM FIRE EXTINGUISHING PIPES IN ENGINE & BOILER ROOMS CONTROLLED FROM BOILER ROOM.*
 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 *YES* ✓. If so, state name of vessel *M.V. LAMPANIA*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed & installed on board under special survey, in accordance with the Rules & Approved Plans. The materials & workmanship are good. Satisfactory basin & sea trials were witnessed & the machinery is eligible in my opinion to have record of LMC 5,48 & notation TS CL - Oil Eng MACHY AFT - ONE DB 180 LBS TORSIONAL VIBRATIONAL CHARACTERISTICS approved for a Service Speed of 11.5 rpm See letter 7/11/46.*

OLD FEE £131-12-0 3/5 OLD FEE = £78-19-0 } TOTAL £154-5-0.
 NEW . £188-4-0 2/5 NEW FEE = £75-6-0 }

The amount of Entry Fee £154 : 5 : ✓
 AIR RECEIVERS BY M.V. CLAM Special TESTING ATTACH 2 : 2 : When applied for 19
 ELEC WELDED CONSTR Donkey Boiler Fee. (34 TONS) £ 9 : 15 : When received 19
 Travelling Expenses (if any) £ . : . :

J. A. Orde
 Engineer Surveyor to Lloyd's Register of Shipping.
 Lloyd's Register Foundation.

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

Committee's Minute *FRI 4 JUN 1948*
 Assigned *+ LMC 5,48 Oil Eng. C.L. DB. 180 LBS.*