

## REPORT ON OIL ENGINE MACHINERY.

No. 109702

Received at London Office  
 Date of writing Report JUNE 24<sup>th</sup> 1941 When handed in at Local Office JUNE 24<sup>th</sup> 1941 Port of LONDON  
 No. in Survey held at FAVERSHAM Date, First Survey 26<sup>th</sup> 1940 Last Survey June 17<sup>th</sup> 1941  
 Reg. Book. Number of Visits 8 (EIGHT)

18050 on the Single Twin Triple Quadruple Screw vessel M.V. "EMPIRE CRAG" Tons Gross 332  
Net 153

Built at FAVERSHAM By whom built JAMES POLLOCK & SONS LTD. Yard No. 1777 When built 1941  
 Engines made at MANCHESTER By whom made CROSLEY BROS. Engine No. 125886 When made 1941  
 Monkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓  
 Brake Horse Power 330 Owners MINISTRY OF SHIPPING, Port belonging to London  
MANAGERS.. T. J. METCALFE  
 Nom. Horse Power as per Rule 116 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 Trade for which vessel is intended Boasting

L ENGINES, &c.—Type of Engines Vertical Solid Injection (HRE) 2 or 4 stroke cycle 2 Single or double acting S.A.

Maximum pressure in cylinders 690 lbs/sq. in. Diameter of cylinders \_\_\_\_\_ Length of stroke \_\_\_\_\_ No. of cylinders \_\_\_\_\_ No. of cranks \_\_\_\_\_  
 Position of bearings, adjacent to the Crank, measured from inner edge to inner edge \_\_\_\_\_ Is there a bearing between each crank \_\_\_\_\_  
 Revolutions per minute 300 Flywheel dia. \_\_\_\_\_ Weight \_\_\_\_\_ Means of ignition Compression Kind of fuel used Heavy Oil

Crank Shaft, dia. of journals \_\_\_\_\_ as per Rule \_\_\_\_\_ Crank pin dia. \_\_\_\_\_ Crank Webs \_\_\_\_\_ Mid. length breadth \_\_\_\_\_ Thickness parallel to axis \_\_\_\_\_  
 as fitted \_\_\_\_\_ Mid. length thickness \_\_\_\_\_ shrunk \_\_\_\_\_ Thickness around eyehole \_\_\_\_\_

Flywheel Shaft, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ Intermediate Shafts, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ Thrust Shaft, diameter at collars \_\_\_\_\_ as per Rule \_\_\_\_\_  
 as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ as fitted \_\_\_\_\_

Tube Shaft, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ Screw Shaft, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ Is the tube shaft fitted with a continuous liner no  
 as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ as fitted \_\_\_\_\_

Brass Liners, thickness in way of bushes \_\_\_\_\_ as per Rule \_\_\_\_\_ Thickness between bushes \_\_\_\_\_ as per rule \_\_\_\_\_ Is the after end of the liner made watertight in the \_\_\_\_\_  
 as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ as fitted \_\_\_\_\_

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 \_\_\_\_\_  
 If so, state type no 2 newark gland Length of Bearing in Stern Bush next to and supporting propeller 24"

Propeller, dia. 5'-10" Pitch 3'-9" No. of blades 3 Material best steel Whether Moveable no Total Developed Surface 13.25 sq. feet

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication \_\_\_\_\_  
pressure 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 both If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine \_\_\_\_\_  
 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Boiling Water Pumps, No. 2 (one attached + 3 separate) 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 \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

Pumps connected to the Main Bilge Line { No. and Size 2  
 How driven Main Engine + auxiliary diesel

Ballast Pumps, No. and size 1-3" centrifugal 18,000 gal/hr Lubricating Oil Pumps, including Spare Pump, No. and size 2 attached (no spare)  
against 15 lbs/sq. in. pressure @ 1045 P.M.

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 1 at 3" direct bilge, 2 at 2 1/2" (1 forward + 1 aft) In Pump Room \_\_\_\_\_

Holds, &c. 2 at 2 1/2" (1 forward + 1 starboard)

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 at 3"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces \_\_\_\_\_

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 \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks both

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 \_\_\_\_\_

How are they protected \_\_\_\_\_ 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 \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

For 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 \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by Main Engine

Auxiliary Air Compressors, No. \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by Hand operated

Small Auxiliary Air Compressors, No. one No. of stages two Diameters 4 P. 1/8, L. P. 3/4 Stroke \_\_\_\_\_ Driven by Diesel Engine

Scavenging Air Pumps, No. one Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by Main Engine

Auxiliary Engines crank shafts, diameter \_\_\_\_\_ as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes Is a drain fitted at the lowest part of each receiver yes

Can the internal surfaces of the receivers be examined and cleaned yes Cubic capacity of each \_\_\_\_\_ Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_

High Pressure Air Receivers, No. none Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Actual \_\_\_\_\_

Seamless, lap welded or riveted longitudinal joint \_\_\_\_\_

Starting Air Receivers, No. 2 Total cubic capacity 30 cu. ft. Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Actual \_\_\_\_\_

Seamless, lap welded or riveted longitudinal joint \_\_\_\_\_



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  
(If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

### SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building  
During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods

Crank shaft Flywheel shaft Thrust shaft Intermediate shafts Tube shaft

Screw shaft Propeller 3, 41 Stern tube 2, 41 Engine seatings 5, 41 Engines holding down bolts 5, 41

Completion of filling sea connections 6, 41 Completion of pumping arrangements 6, 41 Engines tried under working conditions 17, 6, 41

Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark

Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks

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

Is the flash point of the oil to be used over 150° F.

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 M.V. "EMPIRE CREEK" MCH. RPT. 109598

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

has been installed under special survey, the workmanship and material being satisfactory and in my opinion the machinery of this vessel is eligible to have the notation of + Lloyd's machinery certificate 6, 41.

NOTE:—

For other particulars see Report 46 No. 10440.

The amount of Entry Fee .. £ : : When applied for,  
Special .. £ 9 : 13 : 4 2/7/41  
Donkey Boiler Fee .. £ : : When received,  
Travelling Expenses (if any) £ 5 : 1 : 1 19

Committee's Minute

Assigned

J. E. Surpie  
Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation