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REPORT ON OIL ENGINE MACHINERY.

No. [redacted]824.

Received at London Office 28 MAR 1945

27 MAR 1945

of writing Report 6. 3. 1945 When handed in at Local Office ..... 19.... Port of HULL

in Survey held at Knottingley & Goole Date, First Survey 22. 6. 44 Last Survey 9. 3. 1945.

Book. Number of Visits 17.

on the Single / Twin / Triple / Quadruple } Screw vessel "EMPIRE GUERNSEY" A/MS 680 Tons { Gross 288 / Net 103.77

ilt at Knottingley By whom built J. Harker Ld. Yard No. 168 When built 1945

gines made at Openshaw, Manchester By whom made Crossley Bros Ld. Engine No. 132220 When made —

nkey Boilers made at none By whom made — Boiler No. — When made —

ake Horse Power 330 ✓ Owners Ministry of War Transport managed by Hemsley Bell Ld. of Southampton Port belonging to Goole

m. Horse Power as per Rule 116 ✓ Is Refrigerating Machinery fitted for cargo purposes No ✓ Is Electric Light fitted YES ✓

ade for which vessel is intended Carrying Petroleum in bulk. ✓

ENGINES, &c.—Type of Engines { See Manchester Rpt No. 11696. Direct injection, heavy oil. 2 or 4 stroke cycle 2 ✓ Single or double acting SA ✓

imum pressure in cylinders 850 lb ✓ Diameter of cylinders 10½" ✓ Length of stroke 13½" ✓ No. of cylinders 6 ✓ No. of cranks 6 ✓

n Indicated Pressure 76 lb ✓ n of bearings, adjacent to the Crank, measured from inner edge to inner edge 14 11/16" ✓ Is there a bearing between each crank Yes ✓

olutions per minute 300 ✓ Flywheel dia. 37½" ✓ Weight 2166 lbs. ✓ Means of ignition Compression Kind of fuel used Diesel Oil.

ank Shaft, { Solid forged / ~~Semi built~~ / ~~All built~~ } dia. of journals as per Rule appd. / as fitted 7½" ✓ Crank pin dia. 7¼" ✓ Crank Webs Mid. length breadth 9¼" Mid. length thickness 3 23/32" shrunk Thickness parallel to axis — Thickness around eyehole —

wheel Shaft, diameter as per Rule ~~Flywheel mounted on~~ **Intermediate Shafts,** diameter as per Rule appd. / as fitted crankshaft coupling as fitted 4½ ✓ **Thrust Shaft,** diameter at collars as per Rule appd. / as fitted 4¾ ✓

be Shaft, diameter as per Rule / as fitted / **Screw Shaft,** diameter as per Rule appd. / as fitted 4 7/8 at top of cone Is the { tube / screw } shaft fitted with a continuous liner { no ✓

onze 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

peller boss ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

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 ✓

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

ft Yes ✓ If so, state type appd 68 "Vickers Vista" ✓ Length of Bearing in **Stern Bush** next to and supporting propeller 2'-0" ✓

opeller, dia. ~~63~~ 64" Pitch 46" No. of blades 4 Material C.I. whether Moveable no Total Developed Surface 12 sq. feet

ethod of reversing Engines direct by air Is a governor or other arrangement fitted to prevent racing of the engine ~~electrical~~ Yes Means of lubrication

forced Thickness of cylinder liners 7/8" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

. pipes & silencer lagged – manifold, water cooled

-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 ✓

oling Water Pumps, No. One M.E. 4¼" dia × 3" st. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes ✓

but bilge + cooling water pump interchangeable. Bilge + Cooling Pumps interchangeable.

lge Pumps worked from the **Main Engines,** No. One Diameter 4¼" Stroke 3" Can one be overhauled while the other is at work Yes

but bilge + cooling water pumps interchangeable

mps connected to the **Main Bilge Line** { No. and Size One 4¼" × 3" ✓ One 2½" Hamworthy centrifugal self priming pump of 12,000 galls/hr. / How driven M.E. ✓ Independent auxiliary engine.

the cooling water led to the bilges No: Led overboard If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

angements ✓

Two in series on M.E. 1⅜" & 1¾" × 2" stroke

llast Pumps, No. and size One 2½" as above **Power Driven Lubricating Oil Pumps,** including Spare Pump, No. and size

two independent means arranged for circulating water through the **Oil Cooler** Yes ✓ **Suctions,** connected to both Main Bilge Pumps and Auxiliary Bilge

mps, No. and size:—In Machinery Spaces 2 - 2" & 1 - 2½". Connected to Centrifugal pump in E/R In Pump Room

Holds, &c. FPT 1 - 2" Fore Coffdams 1 - 2" ✓ 1 - 2" handpump suction to Pump Room (port) Aft Coffdam

dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 2½" ✓ & 1 2½ emergency

e all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes ✓ Are the Bilge Suctions in the Machinery Spaces

from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes ✓

e all **Sea Connections** fitted direct on the skin of the ship On robust E.W. steel boxes. Are they fitted with Valves or Cocks Cocks. ✓

e 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

e 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 ✓

hat pipes pass through the bunkers none ✓ How are they protected ✓

hat pipes pass through the deep tanks none ✓ Have they been tested as per Rule ✓

e all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all ~~boiler~~ mountings accessible at all times Yes

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

partment to another Yes ✓ Is the Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

ain Air Compressors, No. One No. of stages 2 Diameters 5¾" & 2½" Stroke 4" Driven by Main Eng. ✓

xiliary Air Compressors, No. One No. of stages 2 Diameters 3¼ & 1⅛ Stroke 3¼ Driven by Aux Oil Eng. ✓

mall Auxiliary Air Compressors, No. See above No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

hat provision is made for first Charging the Air Receivers Auxiliary air compressor above driven by hand starting oil engine. ✓

avenging Air Pumps, No. One double acting tandem Diameter 20½" Stroke 9¼" Driven by Main eng. ✓

xiliary Engines crank shafts, diameter as per Rule See Nottingham Appd. No. Two, allocated ✓

as fitted Rpts. 10 - C 2367 & C 2372 ✓ 2⅛ ✓ Position IP IS in engine room.

ve the Auxiliary Engines been constructed under special survey Yes ✓ Is a report sent herewith Yes ✓

An additional 2 gl. oil engine with 10 KW dynamo fitted 6.45 –

"E. GUERNSEY"

AIR RECEIVERS:—*Have they been made under survey* Yes ✓ *State No. of Report or Certificate* C. 2013 C. 2074

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.* None ✓ *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* ~~2'-0 1/8"~~ 2'-0 1/2" *thickness* 3/8" ✓ & 15/32" ✓

Seamless, lap welded or riveted longitudinal joint Riveted and welded *Material* S.M. Stl. ✓ *Range of tensile strength* 26/30 ✓ *Working pressure* *by Rules* 350 lb *Actual* 350 lb

IS A DONKEY BOILER FITTED? No ✓ *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* 16.4.43. 12.3.43. *Receivers* 5-12-40 2.7.41 *Separate Fuel Tanks* 7.5.43
(If not, state date of approval)

Donkey Boilers ✓ *General Pumping Arrangements* 22.9.43 *Pumping Arrangements in Machinery Space* 22.9.43

Oil Fuel Burning Arrangements 29.9.43.

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,

Manufacturer.

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

See Manchester Rpt. No. 11696.

1944 JUN 22, 28 AUG 15 SEP 21 OCT 6, 11, 18 DEC 11, 18. 1945 JAN 5, 23. FEB 7, 9, 20, 23 MAR 5, 9.

17.

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

Crank shaft See Manchester Report *Flywheel shaft* *Thrust shaft* *Intermediate shafts* No. 11696. *Tube shaft*

Screw shaft 11.10.44 *Propeller* 18.10.44 *Stern tube* 18.10.44 *Engine seatings* 6.10.44 *Engines holding down bolts* 11.12.44

Completion of fitting sea connections 18.10.44 *Completion of pumping arrangements* 7.2.45 *Engines tried under working conditions* 7.2.45

Crank shaft, Material See Manchester Report *Identification Mark* No 11696. *Flywheel shaft, Material* *Identification Mark*

Thrust shaft, Material ~~Forged~~ *Identification Mark* *Intermediate shafts, Material* F.I. Steel *Identification Marks* LLOYDS 262 JNB, 21.7.43

Tube shaft, Material ✓ *Identification Mark* ✓ *Screw shaft, Material* F.I. Steel *Identification Mark* LLOYDS 259. JNB 21.7.43

Identification Marks on Air Receivers E 3094 ✓ E 3070 ✓

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 ✓

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* "EMPIRE ALDERNEY"

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

The machinery of this vessel has been installed in accordance with the Rules, Specification, approved plans and Secretary's letters, tried under working conditions found satisfactory. The workmanship and materials are good.

Eligible in my opinion to be classed ✠LMC 3.45. OG Oil Eng 2SCSA 6 cylinders 10½" dia – 13½" stroke 116 NHP.

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

The amount of Entry Fee ..	£	5 - 0	When applied for, 27 MAR 1944 19
Fitting-out (LMC) Special	£	7 - 5	
Specification Donkey Boiler Fee ...	£		When received, 19
Travelling Expenses (if any)	£		

FRI. 13 APR 1945

Committee's Minute

Assigned ✠LMC 3.45 Oil Eng. O.G. machy aft.

W. S. Shields

Engineer Surveyor to Lloyd's Register of Shipping.