

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 19 23/8/41 When handed in at Local Office 23/8/41 Port of NEWCASTLE ON TYNE

No. in Survey held at Newcastle on Tyne Date, First Survey 11/12/39 Last Survey 22-8-1941
 Reg. Book. on the S/S "EMPIRE FLINT" (Number of Visits 122) Tons } Gross 8129
 Net 4630

Built at Newcastle By whom built Swan, Hunter & Wigham Richardson, L., Yard No. 1601. When built 1941-

Engines made at ditto By whom made ditto Engine No. 1658 When made 1941.

Boilers made at ditto By whom made ditto Boiler No. 1658. When made 1941

Registered Horse Power ✓ Owners _____ Port belonging to Newcastle

Nom. Horse Power as per Rule 629. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended Ocean going, Carrying Petroleum in bulk

ENGINES, &c.—Description of Engines 3 Cyl. Triple Exp. Recip. Revs. per minute 84.

Dia. of Cylinders 26 1/2 + 44 + 73 Length of Stroke 48 No. of Cylinders 3. No. of Cranks 3

Crank shaft, dia. of journals as per Rule 14.66 Crank pin dia. 15 1/4 Crank webs Mid. length breadth ✓ Thickness parallel to axis 9.5625
 as fitted 15 1/4 Mid. length thickness ✓ Thickness around eye-hole 7 3/8 at journal

Intermediate Shafts, diameter as per Rule 13.96 Thrust shaft, diameter at collars as per Rule 14.66 6 7/8 at ca. pin
 as fitted 14. as fitted 14 3/4

Tube Shafts, diameter as per Rule ✓ Screw Shaft, diameter as per Rule 15.42 Is the ✓ shaft fitted with a continuous liner ✓
 as fitted ✓ as fitted 15 1/2 Is the ✓ screw ✓

Bronze Liners, thickness in way of bushes as per Rule 24.7/32 Thickness between bushes as per Rule 18.5/32 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 In one piece
 as fitted 25/32 as fitted 23/32 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 Light fit.

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 shaft No If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 62 1/2

Propeller, dia. 17 1/6 Pitch 14 1/6 No. of Blades 4. Material M. S. S. whether Moveable No Total Developed Surface 104 sq. feet

Feed Pumps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Bilge Pumps worked from the Main Engines, No. 2 Diameter 6 Stroke 26 Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size Two of 10 1/2 x 8 x 21 Pumps connected to the { No. and size One Ballast 10 x 11 x 10 dup. & Two Single acting 6 x 26
 How driven Indep. Steam Main Bilge Line { How driven Steam (200 tons/hr) (98 ton/hr total)

Ballast Pumps, No. and size One 10 x 11 x 10 duplex Lubricating Oil Pumps, including Spare Pump, No. and size ✓

Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 of 3 1/2" & only bilge wells 2 of 2 1/2"

In Pump Room 2 of 4" in each pump room In Holds, &c. In Fore Hold 2 of 2 1/2"; 1 of 2" in Pump Room; 2 of 2" in Peak Tank Top.

Main Water Circulating Pump Direct Bilge Suctions, No. and size One 9" dia Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 5" dia on Starboard Are all the Bilge Suction Pipes in holds and bilge well fitted with strum-boxes Yes

Are the Bilge Suctions in the Machinery Space 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 sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges above or below the deep water line below

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 Is the Shaft Tunnel watertight None (mach. aft) Is it fitted with a watertight door ✓ worked from ✓

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 9555 sq. ft.

Which Boilers are fitted with Forced Draft all 3 Boilers Which Boilers are fitted with Superheaters all 3 Boilers

No. and Description of Boilers 3 Single Ended. Working Pressure 220 lbs.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? None If so, is a report now forwarded? ✓

Can the donkey boiler be used for domestic purposes only ✓

PLANS. Are approved plans forwarded herewith for Shafting 17/10/39 Main Boilers 31/10/39 Auxiliary Boilers ✓ Donkey Boilers ✓
 (If not state date of approval)

Superheaters _____ General Pumping Arrangements 21/5/40 & 30/5/40 Oil fuel Burning Piping Arrangements _____
Pumping Arrgt in E.R. 13/11/40 + 15/6/40
SPARE GEAR.

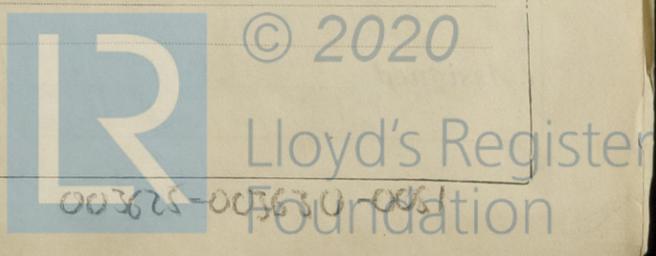
Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied 12 gauge glasses, 50 ferrules & 100 packings for Condenser, 6 piston bolts, 4 cam rollers & spindles for HP. Valve gear, 1 Valve spindle for HP. Valve gear, 12 plain boiler tubes, 20% of jointing washers, 10% studs & nuts, 10% header plugs & 2% clamps for Superheaters

The foregoing is a correct description.

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

G. J. Sweeney, Manufacturer. DIRECTOR.



1939 1940
 Dec. 11. 19. Feb. 26. 29. Mar. 5. 7. 11. 12. 13. 14. 15. 18. 26. 28. Apr. 22. 25. 29. May 3. 22. June 19.
 July 1. 9. 15. 16. 17. 19. 24. 25. 30. 31. Aug. 6. Sep. 4. 10. 16. 23. Oct. 3. 7. 14. 18. 22. 24. Nov. 6. 19. 25. 26. 28.
 1941
 Dec. 3. 9. 13. 18. 23. 24. 30. Jan. 9. 10. 20. 27. 29. 30. Feb. 6. 10. 12. 14. 15. 19. 21. 25. Mar. 5. 7. 18. 20. 22. 24.
 25. 26. Apr. 2. 3. 7. 9. 11. 15. 16. 17. 18. 22. 23. 24. 25. 28. 30. May 1. 6. 8. 9. 12. 14. 15. 16. 19. 22. 27. 29. 30. June 3. 10. 11.
 16. 17. 18. 24. 25. 26. 27. 30. July 2. 4. 22. 23. 24. Aug. 1. 5. 22.
 Total No. of visits 122.

Dates of Examination of principal parts—Cylinders 7/10/40 Slides 5/3/41 Covers 7/10/40
 Pistons 5/3/41 Piston Rods 5/3/41 Connecting rods 5/3/41
 Crank shaft 6/8/40 Thrust shaft 22/5/40 Intermediate shaft 20/3/41
 Tube shaft ✓ Screw shaft 19/2/41 Propeller 25/3/41
 Stern tube 22/3/41 Engine and boiler seatings 22/3/41 + 11/6/41 Engines holding down bolts 9/24/41
 Completion of fitting sea connections 22/3/41
 Completion of pumping arrangements 21/7/41 Boilers fixed 27/6/41 Engines tried under steam 21/7/41 & 22/8/41
 Main boiler safety valves adjusted 21/7/41 Thickness of adjusting washers 8608 AW 6/8/40 Thrust shaft material 7 Steel Identification Mark 9064 DB 632
 Crank shaft material 7 Steel Identification Mark 9064 HAI 632 Tube shaft, material ✓ Identification Mark ✓
 Intermediate shafts, material 7 Steel Identification Marks 9064 DB 620 Steam Pipes, material S.D. Steel Test pressure 660 lbs Date of Test 9/12/40 to 26/6/41
 Screw shaft, material 7 Steel Identification Mark 9064 DB 620
 Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes
 Have the requirements of the Rules for the use of oil as fuel been complied with Yes
 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 ✓
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with Not required
 Is this machinery duplicate of a previous case Yes If so, state name of vessel ENNERDALE SHWR. Yard 41656.

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery of this vessel has been constructed under special survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good.
 The machinery has been efficiently installed on board, tried under working conditions with satisfactory results, and is eligible, in my opinion, for record + LMC. 8.41, and the notations 3SB, SH, F.D. 220 lbs. cl.

The amount of Entry Fee ... £ 6 : 0 :
 Special ... £ 106 : 9 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 10 SEP 1941
 When received, 19

A Watt
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 26 SEP 1941

Committee's Minute

Assigned + LMC 8.41
 Hld for oil fuel 8.41 FP above 150°F
 FD Cl



Certificate to be sent to Newcastle-on-Tyne

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