Rpt. 4.

No. 52120.

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 9 SEP 1943

Date of writing Report 30-8-43 19 When handed in at Local Office 6 SEP 1943 19 Port of HULL

No. in Reg. Book Survey held at HULL. Date, First Survey 4.1.43. Last Survey 25.8.1943 (Number of Visits 33)

on the STEAM TUG EMPIRE SYBIL. A/MS 552. Tons Gross 276 Net Nil.

Built at SELBY By whom built Cochrane & Sons Ltd Yard No. 1268. When built 1943

Engines made at HULL By whom made Amos & Smith Engine No. 728. When made .

Boilers made at HULL. By whom made Amos & Smith Boiler No. 728. When made .

Registered Horse Power Owners Ministry of War Transport. Port belonging to Hull

Nom. Horse Power as per Rule 132 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Towing Service

ENGINES, &c.—Description of Engines TRIPLE EXPANSION Contract. Revs. per minute 122.

Dia. of Cylinders 15", 25", 42". Length of Stroke 27". No. of Cylinders 3. No. of Cranks 3.

Crank shaft, dia. of journals as per Rule 8.05" as fitted 8½" Crank pin dia. 8½". Crank webs Mid. length breadth 15½" Mid. length thickness 5½". Thickness parallel to axis shrunk 5¼". Thickness around eye-hole 3⅝".

Intermediate Shafts, diameter as per Rule 7.66". as fitted 8".

Thrust shaft, diameter at collars as per Rule 8.05. as fitted 8½".

Tube Shafts, diameter as per Rule — as fitted None **Screw Shaft,** diameter as per Rule 8.865. as fitted 9½" Is the ~~tube~~ screw shaft fitted with a continuous liner — No.

Bronze 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 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 shaft Yes. If so, state type "NEWARK". Length of Bearing in **Stern Bush** next to and supporting propeller 3'-2½".

Propeller, dia. 10'-0" Pitch 11'-9" No. of Blades 4. Material C.I. whether Moveable Solid. Total Developed Surface 38 sq. feet

Feed Pumps worked from the **Main Engines,** No. 2. Diameter 2¾" Stroke 15" Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the **Main Engines,** No. 2. Diameter 2¾". Stroke 15". Can one be overhauled while the other is at work Yes

Feed Pumps No. and size One 6"×4½"×6". How driven Independent Steam. **Pumps** connected to the **Main Bilge Line** No. and size One 7½"×5"×6". How driven Independent Steam.

Ballast Pumps, No. and size — **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 ~~One 2" Dia in each of the following~~ 2@2½" Dia, 2@3" Dia, Blr Rm 2@2½" Dia

In Pump Room One 2" Dia in each of the following ~~Holds, &c.~~ Fore Peak Tank, Fore Hold, Aft. Hold, Aft Peak Tank

Main Water Circulating Pump Direct Bilge Suctions, No. and size One @ 5". **Independent Power Pump Direct Suctions** to the Engine Room Bilges, No. and size Two @ 3" Dia included above Are all the Bilge Suction Pipes in holds and tunnel 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 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 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 No. Is it fitted with a watertight door ✓ worked from ✓

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 2390 ☐ft.

Which Boilers are fitted with Forced Draft None. Which Boilers are fitted with Superheaters None

No. and Description of Boilers One S.E. Working Pressure 200 lbs/in²

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.

IS A DONKEY BOILER FITTED? No 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 28-7-41 Main Boilers 3/7/41. Auxiliary Boilers None Donkey Boilers None
(If not state date of approval)

Superheaters — General Pumping Arrangements 3-9-41 Oil fuel Burning Piping Arrangements —

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes.

State the principal additional spare gear supplied As per Specification.

The foregoing is a correct description.

For AMOS & SMITH LTD.

W. E. Brown. DIRECTOR

Manufacturer.

NOTE.—The words which do not apply should be deleted. If not, state whether, and when, one will be sent. Is a Report also sent on the Hull of the Ship?

2m T 11.41. McC. (MADE IN ENGLAND.)

EMPIRE SYBIL.

Dates of Survey while building

During progress of work in shops — Jan 7. 14. Feb. 24. & Mar. 14. 20. May 1, 21. 25. 27. 29. 31. June 1. 2. 4. 14. 18. 28. Aug. 16. 19.

During erection on board vessel — 1943 Ap 15, 29 Ju 17. Jly 12, 15, 22, 29. Aug 4, 5, 13, 19, 23, 24, 25.

Total No. of visits 33.

Dates of Examination of principal parts—Cylinders 1/6/43. 27/5/43. 29/5/43. Slides 27-2-43. Covers 1/6/43 27/5/43 29/5/43.

Pistons 1/5/43. 21/5/43. Piston Rods 21/5/43. Connecting rods 20/3/43.

Crank shaft 4-6-43. Thrust shaft 14/1/43. Intermediate shafts 7/1/43.

Tube shaft None Screw shaft 17/3/43. Propeller 29/4/43.

Stern tube 29/6/43. Engine and boiler seatings 17/6/43. 15/7/43 Engines holding down bolts 5/8/43

Completion of fitting sea connections 29/4/43.

Completion of pumping arrangements 19/8/43 Boilers fixed 5/8/43 Engines tried under steam 19/8/43

Main boiler safety valves adjusted 19/8/43 Thickness of adjusting washers P & S 5/16"

Crank shaft material F.I. Steel. Coupling 388 F.W. 11/11/42. Identification Mark 638 F.W. 18/2/43. Journals plus. Thrust shaft material F.I. Steel Identification Mark 386 F.W. 29/11/42.

Intermediate shafts, material F.I. Steel Identification Marks 388 F.W. 24/11/42. Tube shaft, material None Identification Mark —

Screw shaft, material F.I. Steel Identification Mark 396 F.W. 20/11/42. Steam Pipes, material Steel Test pressure 600 lb Date of Test 16/8/43

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150° F. ✓

Have the requirements of the Rules for the use of oil as fuel been complied with ✓

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 ✓

Is this machinery duplicate of a previous case YES If so, state name of vessel "E. SARA"

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

The Machinery of the Vessel, has been constructed in accordance with the approved plans, the Rules, and the Specification of Varied material made by firms accredited by the Society.

The Workmanship and Materials are good

The Machinery and auxiliaries have been fitted on board, and when tried under steam at as sea full powe as practicable in the basin were found satisfactory in every respect..

The Vessel is eligible, in our opinion When classed to have the records of

✠ LMC 8.43. and O.G. and the Notations. T. 3 Cy. 15", 25", 42" — 27".

132 NHP. 200 lbs. 1 S.B. 3 c.f. G.S. 63. H.S. 2390.

The original arrangement for boilers to be oil-burning now amended to coal-burning when vessel was about ready to receive its machinery.

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

Certificate to be sent to

The amount of Entry Fee	£	3 : 0 :	When applied for, 6 SEP 1943 19
Special ... ... Sup. Spr.	£	33 : 5 :	
Donkey Boiler Fee	£	: :	When received, 19
Travelling Expenses (if any)	£	: :	

W. S. Shields.

J. Freeman

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 17 SEP 1943

Assigned + LMC 8.43 O.G.