

Rpt. 4.

REPORT ON MACHINERY.

No. 78022

Received at London Office FRI. JUL 4 1924

Date of writing Report 19 When handed in at Local Office 30/6/24 Port of NEWCASTLE-ON-TYNE

No. in Survey held at WALKER, WALLSEND Date, First Survey 24 March 1924 Last Survey 11 June 1924
Reg. Book. (Number of Visits 21)

on the STEEL SCREW STEAMER GORALSTONE - S.H.W.R. SHIP NO 1245 Tons } Gross
Not

Master Built at WALLSEND By whom built SWAN HUNTER, WIGHAM, RICHARDSON When built 1924

Engines made at COLCHESTER By whom made DAVY PARMAN + CO LD (S.H.W.R. JOB NO 1176 when made 1920-3

Boilers made at COLCHESTER By whom made EDWIN BANKS + CO LD when made

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Section 28 120 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES

ENGINES, &c.—Description of Engines **TRIPLE EXPANSION** No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 15.25 40 Length of Stroke 27 Revs. per minute Dia. of Screw shaft 8.57 as per rule 8.74 Material of STEEL
 as fitted 8 7/8 screw shaft
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube YES Is the after end of the liner made water tight
 in the propeller boss YES If the liner is in more than one length are the joints burned - 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 - Length of stern bush 3'-1" LIGNUM VITAE
 Dia. of Tunnel shaft as per rule 7.46 COUPLING SHAFT. as per rule 7.82 Dia. of Crank shaft journals as fitted 7.875 Dia. of Crank pin 7.875 Size of Crank webs 5x12 1/2 Dia. of thrust shaft under
 collars 8 Dia. of screw 10.9 Pitch of Screw 10'-6" No. of Blades 4 State whether moveable NO Total surface 35 9/16 NEW PROPELLER
 No. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 14 Can one be overhauled while the other is at work YES
 No. of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 14 Can one be overhauled while the other is at work YES
 No. of Donkey Engines 2 Sizes of Pumps FEED. 6x4x6 DUPLET. BALLAST. DUPLET No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room one aft Bilge Suction 2 1/2 - 2 of 2 1/2 off of Balers In Holds, &c. no. 2 hold 2 of 2 3/4 no. 1 hold 2 of 2 1/2
 one direct Dry pump suction 3 1/2 aft
 No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump CP Is a separate Donkey Suction fitted in Engine room & size YES 3 1/2
 OR STRV
 Are all the bilge suction pipes fitted with roses YES Are the roses in Engine room always accessible YES Are the sluices on Engine room bulkheads always accessible -
 Are all connections with the sea direct on the skin of the ship YES Are they 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 Discharge Pipes 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 are carried through the bunkers NONE How are they protected
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YES
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YES
 Is the Screw Shaft Tunnel watertight NONE MCHY. AFT. Is it fitted with a watertight door - worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer + Sons Ltd. 2SB.
 Total Heating Surface of Boilers 820 Is Forced Draft fitted YES No. and Description of Boilers 2 SE. CYL. MULTI
 Working Pressure 180 Tested by hydraulic pressure to 360 lbs Date of test 16.10.19 No. of Certificate 422
 424
 Can each boiler be worked separately YES Area of fire grate in each boiler 24.65 Area of each valve 4.91 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear YES
 each boiler two direct spring
 Smallest distance between boilers or uptakes and bunkers or woodwork 15" Mean dia. of boilers 9-5 1/4 Length 11'-0" Material of shell plates steel
 Thickness 25/32 Range of tensile strength 29 3/4 - 34 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.
 long. seams DBS. TR Diameter of rivet holes in long. seams 13/16 Pitch of rivets 5 3/4 Lap of plates or width of butt straps 12 1/4
 Per centages of strength of longitudinal joint rivets 85.8 90 Working pressure of shell by rules 180 lbs Size of manhole in shell 16x12
 plate 85.8 90
 Size of compensating ring 7 7/8 x 25/32 No. and Description of Furnaces in each boiler 2 corrugated Material steel Outside diameter 36 1/8
 Length of plain part top 7.2 Thickness of plates crown 15.2 Description of longitudinal joint welded No. of strengthening rings
 bottom 7.2 bottom 32
 Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 3/4
 Pitch of stays to ditto: Sides 9 1/4 x 9 Back 9 x 9 1/4 Top 9 x 10 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbs
 Material of stays steel Area at smallest part 2.03 Area supported by each stay 85.5 Working pressure by rules 180 lbs End plates in steam space:
 Material steel Thickness 11/16 Pitch of stays 20 1/4 x 14 How are stays secured D.N.-W Working pressure by rules 180 lbs Material of stays steel
 Area at smallest part 5.05 Area supported by each stay 287 Working pressure by rules 180 lbs Material of Front plates at bottom steel
 Thickness 11/16 Material of Lower back plate steel Thickness 11/16 Greatest pitch of stays 12 x 10 Working pressure of plate by rules 180 lbs
 Diameter of tubes 2 1/2 Pitch of tubes 5 1/2 Material of tube plates steel Thickness: Front 11/16 Back 3/4 Mean pitch of stays 7
 Pitch across wide water spaces 13 1/2 Working pressures by rules 180 lbs Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 9 1/4 x 1 1/4 Length as per rule 30.5 Distance apart 10 Number and pitch of stays in each two 9
 Working pressure by rules 220 lbs Steam dome: description of joint to shell none % of strength of joint
 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to
 Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
 Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

IS A DONKEY BOILER FITTED? **No** ✓

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top end bolts and nuts, two bottom end bolts nuts, set of coupling bolts nuts, two main bearing bolts nuts, spare feed & Bilge pump valves, air & circulating pump valves, assorted iron bolts nuts Assorted general Engine Room stores and tools ✓

The foregoing is a correct description,

Manufacturer.

1924 Examination and repairs at S. H + W R Walks - Walker & Walkend -
Dates of Survey while building: During progress of work in shops - Mar 24. 26. 27. 28. Apr 1. 4. 8. 11. 15. 16. May 6. 13. 14. 22. 26. 29. 30. June 3. 5. 10. 11.
During erection on board vessel - - -
Total No. of visits 21.

Is the approved plan of main boiler forwarded herewith **NO** ✓

Is the approved plan of donkey boiler forwarded herewith **NO** ✓

Dates of Examination of principal parts—Cylinders 11. 4. 24 Slides 11. 4. 24 Covers 11. 4. 24 Pistons 11. 4. 24 Rods 11. 4. 24

Connecting rods 11. 4. 24 Crank shaft 11. 4. 24 Thrust shaft 1. 4. 24 Tunnel shafts 6. 5. 24 Screw shaft 3. 6. 24 Propeller 22. 5. 24

Stern tube 22. 5. 24 Steam pipes tested 3. 6. 24 Engine and boiler seatings 26. 5. 24 Engines holding down bolts 3. 6. 24 / 1. 6. 24

Completion of pumping arrangements 11. 6. 24. Boilers fixed 11 June 24 Engines tried under steam 11. June 24.

Completion of fitting sea connections 22. 5. 24. 11. 6. 24 Stern tube 22. 5. 24 Screw shaft and propeller 22. 5. 24

Main boiler safety valves adjusted 11. 6. 24. Thickness of adjusting washers P.B. F 3/8 - A 3/8 - S.B. F 3/8 A 3/8

Please see P. 14, up to Southampton 10572 - London 82230. Ipswich 82212. Sheffield 333

Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do. LGS 13-829

Material of Steam Pipes STEEL, S.D. Test pressure 540 lbs

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 Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case If so, state name of vessel

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

The Engines and 2 Boilers removed from s/s "CRETEYARD" sent to Messrs Swan Hunter & Thugham Richardson Ltd, Neptune Works, Walker (Contract No 1176)

The Engines dismantled thoroughly overhauled, re-erected, placed on board s/s "CORALSTONE" securely fastened, tried under steam and found satisfactory (Vessel at Moorings)

The non-conducting material removed from the boilers, boilers also examined, minor repairs effected tested under 320 lbs hydraulic pressure, and found satisfactory. LLOYDS tested 4 April 24. L.G.S

The boilers satisfactorily fitted up on board the vessel, old mountings refitted. The Safety Valve adjusted under steam 185 lbs.

In my opinion the machinery is now in good condition and eligible for the notification of + L.M.C. 6. 24 (in Red) in the Register Book - with record Engines & Boilers built 1919 refitted 6. 24 - Tail Shaft fitted with continuous liner - forced draught, machinery aft.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 6. 24. F.D. CL.

+ NE & B made 3. 20. refitted 6. 24.

The amount of Entry Fee ... £ : : When applied for, 23 JUN 1924

Donkey Boiler Fee ... £ : : When received, 28 JUN 1924

Travelling Expenses (if any) £ : : Committee's Minute TUES. 8 JUL 1924

Assigned + L.M.C 6. 24 F.D. CL. + NE & B made 3. 20 refitted 6. 24

