

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

30/6/10 24 Port of

NEWCASTLE-ON-TYNE

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

on the STEEL SCREW STEAMER GORALSTONE -

S-HWR SHIP NO 1245

Tons

Gross

Net

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-HWR 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, &amp;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 359

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

BALLAST. DUPLEX 9x10x10

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room one off Bilge Suction 2 1/2 - 2 of 2 1/2 off of Bilgers

In Holds, &amp;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 off

No. of Bilge Injections 1

sizes 5"

Connected to condenser, or to circulating pump CP

Is a separate Donkey Suction fitted in Engine room &amp; size YES 3 1/2

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

MCHY. AFT. NONE

Is it fitted with a watertight door

worked from

BOILERS, &amp;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 lb

Date of test 16.10.19

No. of Certificate 422

Can each boiler be worked separately YES

Area of fire grate in each boiler 24.65

No. and Description of Safety Valves to

each boiler two direct spring

Area of each valve 4.91

Pressure to which they are adjusted 185 lb

Are they fitted with easing gear YES

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

Working pressure of shell by rules 180 lb

Size of manhole in shell 16x12

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

Description of longitudinal joint welded

No. of strengthening rings

Length of plain part bottom 7.2

Thickness of plates bottom 32

Working pressure of furnace by the rules 180 lb

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 lb

Material of stays steel

Area at smallest part 2.03

Area supported by each stay 85.5

Working pressure by rules 180 lb

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 lb

Material of stays steel

Area at smallest part 5.05

Area supported by each stay 287

Working pressure by rules 180 lb

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 lb

Diameter of tubes 2 1/2

Pitch of tubes 3 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 lb

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 lb

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

003282-003289-0164

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Foundation



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 and nuts, set of coupling bolts and nuts, two main bearing bolts and nuts, spare feed & Bilge pump valves, air & circulating pump valves, assorted iron bolts and nuts, Assorted general Engine Room stores and Tools.*

The foregoing is a correct description,

Manufacturer.

1924 Examination and repairs at S. H. & W. R. Walker - Waller - Malthus -  
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* ✓  
" " " donkey " " " *None* ✓

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 *3. 6. 24* Tunnel shafts *1. 4. 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* / *11. 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 *Notes* up to Southampton 10572 - London 82230. Ipswich 82212. Shipyard 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, Newcastle. 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. FD. CL. + NE & B made 3. 20 refitted 6. 24.*

The amount of Entry Fee ... £ : :  
*as per London letter*  
Special 28/3/24 ... £ 20 - : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : :

When applied for,  
23 JUN 1924

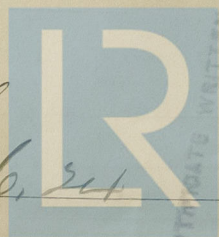
When received,  
28 JUN 1924

*L. G. Shallcross.*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 8 JUL 1924

Assigned

*+ L.M.C 6. 24 FD. CL.  
+ NE & B made 3. 20 refitted 6. 24*



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