

REPORT ON MACHINERY.

No. 43985

Date of writing Report *15 Sept 24* when handed in at Local Office *15.9.24* Port of *Glasgow*
 No. in Survey held at *Glasgow* Date, First Survey *6 May* Last Survey *10 Sept 1924*
 Reg. Book. (Number of Visits *4*)

Master *James S. B. C. J. N. 74* Built at *Middlesbrough* By whom built *Furness S. B. C. J. N. 74* When built *1924*
 Engines made at *Glasgow* By whom made *Koss & Duncan N. 1140* when made *1924*
 Boilers made at *Glasgow* By whom made *Koss & Duncan N. 1709-10* when made *1924*

Registered Horse Power *156* Owners *James S. B. C. J. N. 74* Port belonging to *James S. B. C. J. N. 74*
 Nom. Horse Power as per Section 28 *156* Is Refrigerating Machinery fitted for cargo purposes *Yes* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple expansion* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *17"-27 1/2"-45"* Length of Stroke *33"* Revs. per minute *9.85* Dia. of Screw shaft *10 1/16"* Material of *8"*
 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 *Yes* 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 *Yes* If two
 liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *40 1/2"*

Dia. of Tunnel shaft *8.62"* Dia. of Crank shaft journals *9.07"* Dia. of Crank pin *9 1/4"* Size of Crank webs *17 1/2" x 6"* Dia. of thrust shaft under
 collars *9 1/2"* Dia. of screw *12.3"* Pitch of Screw *12.6"* No. of Blades *4* State whether moveable *No* Total surface *50 sq. ft.*

No. of Feed pumps *2* Diameter of ditto *2 3/4"* Stroke *16 1/2"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *3"* Stroke *16 1/2"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *2* Sizes of Pumps *2.5 B.* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *2* In Holds, &c. *2*

No. of Bilge Injections *2* sizes *2.5 B.* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size
 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 *Yes*
 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
 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
 What pipes are carried through the bunkers *Yes* How are they protected *Yes*

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 *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

BOILERS, &c.—(Letter for record *S.*) Manufacturers of Steel *D. G. G. & Sons* 2.5 B.
 Total Heating Surface of Boilers *2806 sq. ft.* Is Forced Draft fitted *No* No. and Description of Boilers *2. Single ended*
 Working Pressure *180* Tested by hydraulic pressure to *320* Date of test *10.9.24* No. of Certificate *16598*
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *39.5 sq. ft.* No. and Description of Safety Valves to
 each boiler *2. Spring loaded* Area of each valve *4.9 sq. in.* Pressure to which they are adjusted *180* Are they fitted with easing gear
 Smallest distance between boilers or uptakes and bunkers or woodwork *1.7"* Mean dia. of boilers *12.0"* Length *10.6"* Material of shell plates *S.*
 Thickness *1"* Range of tensile strength *28-32* Are the shell plates welded or flanged *No* Descrip. of riveting: cin. seams *J.R.*
 long. seams *T.R.D.B.S.* Diameter of rivet holes in long. seams *1"* Pitch of rivets *7"* Lap of plates *14 7/8"* width of butt straps *14 7/8"*
 Per centages of strength of longitudinal joint *86.4* Working pressure of shell by rules *182* Size of manhole in shell *16" x 12"*
 Size of compensating ring *30 1/2" x 26 1/2"* No. and Description of Furnaces in each boiler *2. Iron* Material *S* Outside diameter *3.75"*
 Length of plain part *9.16"* Thickness of plates *1.16"* Description of longitudinal joint *weld* No. of strengthening rings *1*
 Working pressure of furnace by the rules *189* Combustion chamber plates: Material *S* Thickness: Sides *1 1/16"* Back *1 1/8"* Top *1 1/16"* Bottom *1 1/16"*
 Pitch of stays to ditto: Sides *9 1/2" x 9"* Back *8 1/2" x 8 1/2"* Top *9 1/2" x 9"* If stays are fitted with nuts or riveted heads *Yes* Working pressure by rules *187*
 Material of stays *S* Area at smallest part *2.07 sq. in.* Area supported by each stay *85.5 sq. in.* Working pressure by rules *195* End plates in steam space:
 Material *S* Thickness *1"* Pitch of stays *16" x 17"* How are stays secured *J.N.L.W.* Working pressure by rules *197* Material of stays *S*
 Area at smallest part *4.57 sq. in.* Area supported by each stay *272 sq. in.* Working pressure by rules *182* Material of Front plates at bottom *S*
 Thickness *7/8"* Material of Lower back plate *S* Thickness *1 1/2"* Greatest pitch of stays *14" x 8 1/2"* Working pressure of plate by rules *216*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 1/4"* Material of tube plates *S* Thickness: Front *7/8"* Back *3/4"* Mean pitch of stays *10"*
 Pitch across wide water spaces *14"* Working pressures by rules *183* Girders to Chamber tops: Material *S* Depth and
 thickness of girder at centre *7" x 1 3/4"* Length as per rule *30 5/8"* Distance apart *9"* Number and pitch of stays in each *2-9 1/2"*
 Working pressure by rules *214* Steam dome: description of joint to shell *Yes* % of strength of joint *100*

Shipping. Diameter *14"* Thickness of shell plates *1"* Material *S* Description of longitudinal joint *Yes* Diam. of rivet holes *1"*
 Pitch of rivets *7"* Working pressure of shell by rules *183* Crown plates *Yes* Thickness *1"* How stayed *Yes*
 SUPERHEATER. Type *Yes* Date of Approval of Plan *Yes* Tested by Hydraulic Pressure to *Yes*
 Date of Test *Yes* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Yes*
 Diameter of Safety Valve *Yes* Pressure to which each is adjusted *Yes* Is Easing Gear fitted *Yes*

ED?

If so, is a report now forwarded?

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can

Manufacturer.

Dates of Survey while building
During progress of work in shops - - 1924 May 6. 13. 15. 22 Jun 2. 6. 11. 16. 23 July 9. 14. 31 Aug 4. 11. 14. 15. 18. 21. 26 Sep 3. 10.
During erection on board vessel - - -
Total No. of visits 21

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 14-7-24 Slides 9-7-24 Covers 9-7-24 Pistons 14-7-24 Rods 4-8-24
Connecting rods 4-8-24 Crank shaft 4-8-24 Thrust shaft 11-8-24 Tunnel shafts 11-8-24 Screw shaft 10-9-24 Propeller 10-9-24

Stern tube 10-9-24. Steam pipes tested

Engine and boiler seatings

Engines holding down bolts

Completion of pumping arrangements

Boilers fixed

Engines tried under steam

Completion of fitting sea connections

Stern tube

Screw shaft and propeller

Main boiler safety valves adjusted

Thickness of adjusting washers

Material of Crank shaft S

Identification Mark on Do. W.L.

Material of Thrust shaft S

Identification Mark on Do. W.L.

Material of Tunnel shafts S

Identification Marks on Do. W.L.

Material of Screw shafts S

Identification Marks on Do. W.L.

Material of Steam Pipes

Test pressure

Is an installation fitted for burning oil fuel

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

"Vale of Howthay"

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines and Boilers

have been built under special survey in accordance with the Rules, and approved plans, the materials and workmanship are good.

The machinery is eligible in my opinion to be classed + L. 17. C. with date when satisfactorily fitted on board & tried under steam.

The Engines and boilers are being shipped to Freetown where they will be fitted on board.

The amount of Entry Fee ... £ 3

Special 4/5 ... £ 31 - 4

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for.

16 SEP 1924

When received.

16 SEP 1924

Jas. Cairns

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 31 OCT 1924

Committee's Minute

GLASGOW

16 SEP 1924

Assigned Defered.



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