

## REPORT ON MACHINERY.

No. 2915

WED AUG 18 1920

Received at London Office

16 Aug 1920 When handed in at Local Office 19 Port of *Melvor*

No. of Survey held at *Melvor Haven* Date, First Survey *14 June* Last Survey *29 June 1920*  
Reg. Book. on the *ST "Cresswell" & "William Bether"* (Number of Visits *7*) Tons { Gross *275*  
Net *275*

Master *H Hewer* Built at *Middlebro'* By whom built *Smith Dock Co L<sup>r</sup>* When built *1917*  
Engines made at *Middlebro'* By whom made *Smith Dock Co L<sup>r</sup>* when made *1917*  
Boilers made at *Newcastle* By whom made *Hawthorn Leslie & Co L<sup>r</sup>* when made *1917*  
Registered Horse Power *87* Owners *D Pettit L<sup>r</sup>* Port belonging to *?*

Nom. Horse Power as per Section 28 *87* Is Refrigerating Machinery fitted for cargo purposes *?* Is Electric Light fitted *?*

ENGINES, &c.—Description of Engines *Triplic Expansion* No. of Cylinders *3* No. of Cranks *3*  
Dia. of Cylinders *12 1/2 x 21 x 35* Length of Stroke *26* Revs. per minute *110* Dia. of Screw shaft *7 1/8* as per rule *7 1/8* as fitted *7 1/8* Material of screw shaft *Iron*  
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 *34"*  
Dia. of Tunnel shaft *6.57* as per rule *6.57* as fitted *6.57* Dia. of Crank shaft journals *6.9* as per rule *6.9* as fitted *6.9* Dia. of Crank pin *7 1/8* Size of Crank webs *14x4 1/2* Dia. of thrust shaft under collars *7 1/8* Dia. of screw *9.6* Pitch of Screw *11 1/2* No. of Blades *4* State whether moveable *No* Total surface *35.5* *sq*  
No. of Feed pumps *2* Diameter of ditto *2 1/2* Stroke *12* Can one be overhauled while the other is at work *Yes*  
No. of Bilge pumps *2* Diameter of ditto *2 1/2* Stroke *12* Can one be overhauled while the other is at work *Yes*  
No. of Donkey Engines *2* Sizes of Pumps *6x3x6 & 6x4x6* No. and size of Suctions connected to both Bilge and Donkey pumps *and one from fore hold*  
In Engine Room *Engine 12" forward 12" aft, 2" Separate 13" Holds, &c.* *and one from fore hold*  
No. of Bilge Injections *1* sizes *3 1/2* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *Yes*  
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 *Yes*  
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 *Forward Suction* How are they protected *Wood Covering*  
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 *?* Is it fitted with a watertight door *?* worked from *?*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *?*

Total Heating Surface of Boilers *1619* Is Forced Draft fitted *No* No. and Description of Boilers *Multitubular*  
Working Pressure *180* Tested by hydraulic pressure to *360* Date of test *25.9.17* No. of Certificate *2522*  
Can each boiler be worked separately *?* Area of fire grate in each boiler *50* *sq* No. and Description of Safety Valves to each boiler *2 Spring loaded* Area of each valve *4.9* Pressure to which they are adjusted *181* Are they fitted with easing gear *Yes*  
Smallest distance between boilers or uptakes and bunkers or woodwork *7* *in* dia. of boilers *162* Length *10.5* Material of shell plates *S*  
Thickness *1 3/32* Range of tensile strength *28.32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *double*  
long. seams *T.R.D.B.S* Diameter of rivet holes in long. seams *1 5/32* Pitch of rivets *8"* Lap of plates or width of butt straps *17"*  
Per centages of strength of longitudinal joint *89.3* rivets *85.5* plate Working pressure of shell by rules *180* Size of manhole in shell *16" x 12"*  
Size of compensating ring *9 3/32* No. and Description of Furnaces in each boiler *3 plain* Material *S* Outside diameter *40 9/16*  
Length of plain part *81.5* top Thickness of plates *25* crown Description of longitudinal joint *Welded* No. of strengthening rings *?*  
bottom *76* bottom *32* Working pressure of furnace by the rules *188* Combustion chamber plates: Material *S* Thickness: Sides *11/16* Back *21/32* Top *11/16* Bottom *7/8"*  
Pitch of stays to ditto: Sides *9 1/2 x 9 3/8* Back *9 x 9* Top *9 1/2 x 9 1/2* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *181*  
Material of stays *S* Area at smallest part *2.07* Area supported by each stay *90.25* Working pressure by rules *206* End plates in steam space: *?*  
Material *S* Thickness *1 1/16* Pitch of stays *17 x 17* How are stays secured *DNW* Working pressure by rules *181* Material of stays *S*  
Area at smallest part *6.10* Area supported by each stay *295* Working pressure by rules *215* Material of Front plates at bottom *S*  
Thickness *31/32* Material of Lower back plate *S* Thickness *15/16* Greatest pitch of stays *14 x 9* Working pressure of plate by rules *219*  
Diameter of tubes *3 1/2* Pitch of tubes *5 1/4 x 4 3/4* Material of tube plates *S* Thickness: Front *31/32* Back *7/8"* Mean pitch of stays *10*  
Pitch across wide water spaces *14* Working pressures by rules *184* Girders to Chamber tops: Material *S* Depth and thickness of girder at centre *8 1/2 x 1 3/4* Length as per rule *32* Distance apart *9 1/2* Number and pitch of stays in each *2.9 1/2*  
Working pressure by rules *197* Steam dome: description of joint to shell *?* % 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 *?*

PERHEATER. 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 *?*

W447-0018



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— 4 top ends bolts and nuts, two bottom  
end bolts, and nuts 2 main bearing bolts and nuts 1 Set of  
Coupling bolts, and nuts 1 Set of feed, bridge, and air pump  
valves 1 Set of piston studs, and nuts 3 Condenser tubes  
3 boiler tubes, and tube stoppers and 3 escape valve sp  
1 Set of donkey pump suction and delivering valves assem  
Quantity of bolts and nuts

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }  
{ During erection on board vessel - - - }  
Total No. of visits

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders

Slides

Covers

Pistons

Rods

Connecting rods

Crank shaft

Thrust shaft

Tunnel shafts

Screw shaft

Propeller

Stern tube

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

180 lbs

Thickness of adjusting washers

S  $\frac{3}{8}$ " P  $\frac{3}{8}$ "

Material of Crank shaft

Iron

Identification Mark on Do.

Material of Thrust shaft

Iron

Identification Mark on Do.

Material of Tunnel shafts

Identification Marks on Do.

Material of Screw shafts

Iron

Identification Marks on Do.

Material of Steam Pipes

S D Copper

Test pressure

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

Yes

Is this machinery duplicate of a previous case

Yes

If so, state name of vessel

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

The workmanship

throughout appears to be good, and efficient. The machinery has been built under British Corporation Survey to plans, and Specification mutually approved by this Society and B.C., and in my opinion is eligible to have class assigned Lmc 6. 20

The amount of Entry Fee ... £ 10 : 10 :  
Special ... £ : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 19.  
When received, 4. 8 19. 20

L. W. Johnstone

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. AUG. 24 1920

Assigned

Lmc 6. 20

CERTIFICATE WRITTEN.



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Foundation