

REPORT ON MACHINERY.

No. 6010

Date of writing Report 15/11 1920 When handed in at Local Office 19 Port of Plymouth
No. in Survey held at Dumport-Dock Date, First Survey June 14th Last Survey 28/10 1920
Reg. Book. 2169 on the Steel screw Steamer "Joseph Connell" (Number of Visits 14) Gross Tons 280
Master Green Built at Glasgow By whom built G. Brown & Co Ltd When built 1919
Engines made at Glasgow By whom made Gillespie & Co Ltd when made 1919
Boilers made at Glasgow By whom made Gillespie & Co Ltd when made 1919
Registered Horse Power - Owners - Port belonging to -
Nom. Horse Power as per Section 28 84 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 12 $\frac{1}{2}$ " + 21" + 35" Length of Stroke 26" Revs. per minute - Dia. of Screw shaft as per rule 4.55" Material of as fitted 4 $\frac{1}{8}$ " 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 2'-10 $\frac{1}{2}$ "

Dia. of Tunnel shaft as per rule 6.54" Dia. of Crank shaft journals as per rule 6.9" Dia. of Crank pin 4 $\frac{1}{8}$ " Size of Crank webs 10 $\frac{3}{4}$ " x 4 $\frac{1}{2}$ " Dia. of thrust shaft under
collars 4 $\frac{1}{8}$ " Dia. of screw 9'-6" Pitch of Screw 11'-1 $\frac{1}{2}$ " No. of Blades 4 State whether moveable No Total surface 35 $\frac{1}{2}$ sq ft
No. of Feed pumps 2 Diameter of ditto 2 $\frac{1}{2}$ " Stroke 12" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 2 $\frac{1}{2}$ " Stroke 12" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps 6" x 3" x 6", 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Two 2" In Holds, &c. Two 2"

Yes Is a suction from engine room and discharge overboard.
No. of Bilge Injections 1 sizes 3 $\frac{1}{2}$ " Connected to condenser, or to circulating pump pumps a separate Donkey Suction fitted in Engine room & size Yes 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 None

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 Wide steam & cold water How are they protected Wood casing

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 ✓

OILERS, &c.—(Letter for record ✓) Manufacturers of Steel ✓

Total Heating Surface of Boilers 169 sq ft Is Forced Draft fitted No No. and Description of Boilers One, Cyl. Mult, Single.
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs. Date of test 4-10-17 B.C No. of Certificate 2469

Can each boiler be worked separately ✓ Area of fire grate in each boiler 50 sq ft No. and Description of Safety Valves to
each boiler Two direct spring Area of each valve 4.9 sq in Pressure to which they are adjusted not adjusted Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8 $\frac{1}{2}$ " Mean dia. of boilers 13'-6" Length 10'-6" Material of shell plates Steel

Thickness 1 $\frac{1}{16}$ " Range of tensile strength ✓ Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap double

long. seams P. Butt Strap Diameter of rivet holes in long. seams 1 $\frac{3}{16}$ " Pitch of rivets 4 $\frac{1}{8}$ " Lap of plates or width of butt straps 1 $\frac{1}{2}$ "

Per centages of strength of longitudinal joint 94.7% Working pressure of shell by rules 183 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 4" x 1 $\frac{1}{16}$ " No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 41 $\frac{1}{2}$ "

Length of plain part top 4 $\frac{1}{2}$ " Thickness of plates bottom 4 $\frac{1}{2}$ " Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 183 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 $\frac{1}{16}$ " Back 1 $\frac{1}{16}$ " Top 1 $\frac{1}{16}$ " Bottom 1"

Pitch of stays to ditto: Sides 10' x 8 $\frac{3}{4}$ " Back 9 $\frac{1}{2}$ ' x 8 $\frac{3}{4}$ " Top 9' x 9 $\frac{1}{2}$ " If stays are fitted with nuts or riveted heads nuts Working pressure by rules 185 lbs

Material of stays Steel Area at smallest part 2.03 sq in Area supported by each stay 8 $\frac{1}{2}$ " Working pressure by rules 208 lbs End plates in steam space:

Material Steel Thickness 1 $\frac{1}{32}$ " Pitch of stays 18 $\frac{1}{2}$ " x 18" How are stays secured Double nuts Working pressure by rules 189 Material of stays Steel

Area at smallest part 6.1 sq in Area supported by each stay 330 sq in Working pressure by rules 90 lbs Material of Front plates at bottom Steel

Thickness 1 $\frac{1}{32}$ " Material of Lower back plate Steel Thickness 1 $\frac{1}{16}$ " Greatest pitch of stays 14 $\frac{1}{2}$ " Working pressure of plate by rules 216 lbs

Diameter of tubes 3 $\frac{1}{2}$ " Pitch of tubes 4 $\frac{3}{4}$ " x 4 $\frac{3}{4}$ " Material of tube plates Steel Thickness: Front 1 $\frac{1}{32}$ " Back 3 $\frac{1}{4}$ " Mean pitch of stays 9 $\frac{1}{2}$ "

Pitch across wide water spaces 14 $\frac{1}{2}$ " Working pressures by rules 181, 223 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8" x 1 $\frac{3}{4}$ " Length as per rule 32" Distance apart 9" Number and pitch of stays in each 2, 9 $\frac{1}{2}$ "

Working pressure by rules 184 lbs 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 -

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 & bottom end connecting rod bolts and nuts, Two main bearing bolts and nuts, One set of feed, bilge air & circulating and main & donkey feed pump valves, bolts, nuts and iron of assorted sizes.*

Complete machinery outfit and spare gear as required by the Miners' Cooperative Trading Society's specification will be put on board when the vessel is taken over, and machinery tried under steam.

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	<i>16/6</i>	Slides	<i>16/6</i>	Covers	<i>16/6</i>	Pistons	<i>16/6</i>	Rods	<i>16/6</i>
Connecting rods	<i>16/6</i>	Crank shaft	<i>16/6</i>	Thrust shaft	<i>16/6</i>	Tunnel shafts	<i>16/6</i>	Screw shaft	<i>5/4</i>
Stern tube	<i>5/4</i>	Steam pipes tested	<i>✓</i>	Engine and boiler seatings	<i>16/6</i>	Engines holding down bolts	<i>16/6</i>	Propeller	<i>5/4</i>
Completion of pumping arrangements	<i>✓</i>	Boilers fixed	<i>✓</i>	Engines tried under steam	<i>✓</i>				
Completion of fitting sea connections	<i>✓</i>	Stern tube	<i>✓</i>	Screw shaft and propeller	<i>✓</i>				
Main boiler safety valves adjusted	<i>not adjusted</i>	Thickness of adjusting washers	<i>✓</i>						
Material of Crank shaft	<i>✓</i>	Identification Mark on Do.	<i>✓</i>	Material of Thrust shaft	<i>✓</i>	Identification Mark on Do.	<i>✓</i>		
Material of Tunnel shafts	<i>✓</i>	Identification Marks on Do.	<i>✓</i>	Material of Screw shafts	<i>✓</i>	Identification Marks on Do.	<i>✓</i>		
Material of Steam Pipes	<i>Copper</i>	Test pressure	<i>✓</i>						

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 *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *The boiler and machinery of this vessel were built under British Corporation Survey, have been carefully inspected and appear to be in good order and workmanship good, the boiler being tested to 240 lbs pressure and in my opinion eligible to be recorded in the Register Book with L.M.C. 10-1920. To complete the survey the safety valves require to be adjusted and machinery tried under steam.*

Certificate (if required) to be sent to

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

Committee's Minute

Assigned

TUE. NOV. 30 1920

L.M.C. 10.20
Engd.

Mr. Raworth
Engineer Surveyor Lloyd's Register of Shipping.

TUE. 14 JUN. 1921

FRI. 12 AUG. 1921

Lloyd's Register
Foundation