

REPORT ON MACHINERY.

No. 70362

Date of writing Report 19 When handed in at Local Office 16 OCT 1917 Port of Newcastle-on-Tyne Received at London Office FRI 19 OCT 1917

No. in Survey held at Newcastle-on-Tyne Date, First Survey 30 Oct 1914 Last Survey 12 Oct 1917 Reg. Book. on the SCREW STEAMER "CLANGULA" (Number of Visits 90)

Master Built at Newcastle By whom built Swan Hunter & Wigham Richardson Tons Gross 1755 Net 870 When built 1914

Engines made at Newcastle-on-Tyne By whom made Swan Hunter & Wigham Richardson When made 1914 Boilers made at Newcastle-on-Tyne By whom made Swan Hunter & Wigham Richardson When made 1914

Registered Horse Power Owners Carl Steamship Coy Port belonging to Gork Nom. Horse Power as per Section 28 318 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 20 1/2 - 34 - 56 Length of Stroke 42 Revs. per minute 75 Dia. of Screw shaft as per rule 12 1/4 Material of screw shaft Steel as fitted 12 3/8 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 No If two liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 4 1/2

Dia. of Tunnel shaft as per rule 10 6/7 Dia. of Crank shaft journals as per rule 11 3/4 Dia. of Crank pin 11 1/4 Size of Crank webs 16 1/2 x 7 1/2 Dia. of thrust shaft under collars 1 1/2 Dia. of screw 14 6/8 Pitch of Screw 16 0 No. of Blades 4 State whether moveable No Total surface 40 59 ft.

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 22 Can one be overhauled while the other is at work Yes No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 22 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 6 x 4 x 6 8 x 4 x 8 14 x 3 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 1 - 2" dia + 2 - 2 1/2" dia In Holds, &c. 4 1 Hold 2 - 2 1/2" dia No. 2 Hold 2 - 2 1/2" dia

No. of Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 5 dia

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 Hold Suctions How are they protected By Strong Casings

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

Dates of examination of completion of fitting of Sea Connections 3/9/14 of Stern Tube 3/9/14 Screw shaft and Propeller 3/9/14 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper platform

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel J. Spence & Sons Ltd.

Total Heating Surface of Boilers 5000 Is Forced Draft fitted Yes No. and Description of Boilers 2 Cylinders Multi Single Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 2/8/14 No. of Certificate 8986

Can each boiler be worked separately Yes Area of fire grate in each boiler 42 59 ft. No. and Description of Safety Valves to each boiler 2 Over Spring Area of each valve 3.06 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 14 Mean dia. of boilers 12 1/4 Length 11.6 Material of shell plates Steel Thickness 3/32 Range of tensile strength 29 1/2 to 33 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Double long. seams Butt Straps Diameter of rivet holes in long. seams 1 Pitch of rivets 4 Lap of plates or width of butt straps 18

Per centages of strength of longitudinal joint rivets 86 Working pressure of shell by rules 182 lb Size of manhole in shell 16 x 12 plate 85

Size of compensating ring 22 1/2 x 36 1/2 x 3/32 No. and Description of Furnaces in each boiler 2 Daightons Material Steel Outside diameter 47 1/8 Length of plain part top 4 1/2 bottom 4 1/2 Thickness of plates crown 3/16 bottom 3/16 Description of longitudinal joint Weld No. of strengthening rings None

Working pressure of furnace by the rules 183 lb Combustion chamber plates: Material Steel Thickness: Sides 3/32 Back 3/32 Top 3/32 Bottom 3/32 Pitch of stays to ditto: Sides 9 x 8 1/2 Back 8 1/2 x 8 1/2 Top 8 1/2 x 9 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 194 lb

Material of stays Steel Diameter at smallest part 2.03 Area supported by each stay 46.4 Working pressure by rules 239 lb End plates in steam space: Material Steel Thickness 1 1/2 Pitch of stays 18 x 14 How are stays secured Drubs Working pressure by rules 183 lb Material of stays Steel

Diameter at smallest part 4 1/4 Area supported by each stay 252 Working pressure by rules 188 lb Material of Front plates at bottom Steel Thickness 3/32 Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 13 1/2 Working pressure of plate by rules 272 lb

Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 1/2 Material of tube plates Steel Thickness: Front 3/32 Back 3/4 Mean pitch of stays 9 3/8 Pitch across wide water spaces 13 1/2 Working pressures by rules 184 lb 239 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2 x 1 1/2 Length as per rule 30 3/2 Distance apart 9 Number and pitch of stays in each 2 8 1/2

Working pressure by rules 182 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately Yes

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

VERTICAL DONKEY BOILER—

Manufacturers of Steel *home*

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with casing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____ Rivets _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Plates _____

Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____

Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— 2 main bearing Bolts, 2 Conn. Rod Bolt End Bolts, 2 Conn Rod Top End Bolts, 1 set Coupling Bolts, 1 set Packing Ring for H.P. Pistons, 1 set Sea Pump valves, 1 set Reg. pump valves, Glands & Bushes for H.P. Piston Rods, 1 Propeller, 56 Fire Bars, a quantity of Assorted Bolts & Nuts of various sizes.

The foregoing is a correct description, *G. F. Sweet* Manufacturer.

Dates of Survey while building	During progress of work in shops	1917																																																																																
		Oct. 20	Nov. 2	3	5	10	13	20	23	29	Dec. 5	7	12	15	18	21	27	28	Jan. 5	8	10	11	20	22	26	27	Feb. 1	5	9	12	15	28	Mar. 2	5	6	7	9	12	15	16	17	19	22	26	28	Apr. 1	23	24	26	30	May 4	7	8	10	15	23	Jun 1	7	11	15	20	22	Jul 2	4	9	13	17	24	Aug 2	3	10	20	31	Sep 3	6	10	14	17	19	22	24	25

Dates of Examination of principal parts—Cylinders 3/9/17 Slides 4/7/17 Covers 25/9/17 Pistons 23/1/17 Rods 22/3/17

Connecting rods 11/6/17 Crank shaft 3/1/17 Thrust shaft 27/12/16 Tunnel shafts 19/2/17 Screw shaft 17/4/17 Propeller 17/4/17

Stern tube 3/18/17 Steam pipes tested 17/9/17 Engine and boiler seatings 27/1/17 Engines holding down bolts 28/9/17

Completion of pumping arrangements 25/9/17 Boilers fixed 28/9/17 Engines tried under steam 25/9/17

Main boiler safety valves adjusted 25/9/17 Thickness of adjusting washers $F \frac{3}{8} A \frac{3}{8}$ Forward Port Starboard PL 56 SV 56

Material of Crank shaft *Steel* Identification Mark on Do. 4388 Material of Thrust shaft *Steel* Identification Mark on Do. 4388

Material of Tunnel shafts *Steel* Identification Marks on Do. 4388 Material of Screw shafts *Steel* Identification Marks on Do. 4388

Material of Steam Pipes *Luxwelded Wrot Iron* Test pressure 520 lb

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

The Engines and Boilers of this vessel were built under special survey and the materials and workmanship are of a high standard. When completed they were examined under steam and found to work satisfactorily.

The machinery throughout is now in good and efficient condition and eligible in our opinion to have the record of L.M.C. 10, 17, marked in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10, 17, F.D.

T.J.S.
20.10.17

NEWCASTLE-ON-TYNE

Certificate (if required) to be sent to the Registrar of Shipping, Newcastle-on-Tyne.

The amount of Entry Fee	£ 3	When applied for,	16 OCT 1917
Special	£ 35 18	When received,	20/10/17
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Thomas In Brook *Wm. Austin*
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute TUE OCT 23 1917
Assigned + L.M.C. 10, 17
F.D.



Rpt. 13.
Port of _____
No. in Reg. Book _____
Owners _____
Yard No. _____
DESCRIP _____
Capacity _____
Where is _____
Position of _____
Positions _____
If cut out _____
circu _____
If vessel _____
Are the c _____
Are all c _____
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Branch _____
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Leads to _____
Cargo lig _____
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Joints in _____
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ma _____
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How are _____