

# REPORT ON MACHINERY.

Received at London Office

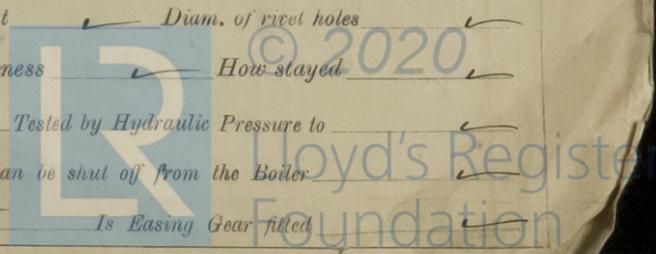
Date of writing Report 19 When handed in at Local Office - 2 Dec 1921 Port of **SUNDERLAND.**  
 No. in Survey held at **SUNDERLAND.** Date, First Survey 29<sup>th</sup> Oct 1920 Last Survey 29<sup>th</sup> Nov 1921  
 Reg. Book. on the **Screw Steamer S.N.A. 6** (Number of Visits 19)  
 Master Built at **Sunderland** By whom built **Osbourne Graham & Co. (N° 244)** when built 1921  
 Engines made at **Sunderland** By whom made **Richardsons, Westgarth & Co. (N° 2162)** when made 1921  
 Boilers made at **do** By whom made **do do do** when made 1921  
 Registered Horse Power **317** Owners **Sec. Nationale d'Affrètements** Port belonging to **Haase**  
 Nom. Horse Power as per Section 28 **317** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**

**ENGINES, &c.**—Description of Engines **Triple expansion** No. of Cylinders **3** No. of Cranks **3**  
 Dia. of Cylinders **23 1/2, 38, 64** Length of Stroke **42** Revs. per minute **70** Dia. of Screw shaft as per rule **12.98** as fitted **13 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 **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 **4-5 1/2**  
 Dia. of Tunnel shaft as per rule **11.6** as fitted **11 5/8** Dia. of Crank shaft journals as per rule **12.2** as fitted **12 1/2** Dia. of Crank pin **13** Size of Crank webs **24 1/2 x 7 3/4** Dia. of thrust shaft under collars **12 1/2** Dia. of screw **15-9** Pitch of Screw **16-6** No. of Blades **4** State whether moceable **No** Total surface **78 sq ft**  
 No. of Feed pumps **2** (independent) Diameter of ditto **8 1/2 x 6** Stroke **18** Can one be overhauled while the other is at work **yes**  
 No. of Bilge pumps **2** Diameter of ditto **3 1/2** Stroke **27** Can one be overhauled while the other is at work **yes**  
 No. of Donkey Engines **3** Sizes of Pumps **7x5x8, 10x12x21** No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room **3 @ 3", 1 @ 2 1/2"** In Holds, &c. **Forward hold, -2 @ 3"**  
**After hold, -3 @ 3" Tunnel well, -1 @ 3"**  
 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, 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 **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 **yes**  
 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 hold suction** How are they protected **under 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 **yes** Is it fitted with a watertight door **yes** worked from **Top platform**

**BOILERS, &c.**—(Letter for record **S**) Manufacturers of Steel **John Spencer Sons, Ltd.**  
 Total Heating Surface of Boilers **5264** Is Forced Draft fitted **No** No. and Description of Boilers **Two S.E. Marine**  
 Working Pressure **180** Tested by hydraulic pressure to **322** Date of test **24-5-21** No. of Certificate **3765**  
 Can each boiler be worked separately **yes** Area of fire grate in each boiler **41.5 sq ft** No. and Description of Safety Valves to each boiler **Two Spring loaded** Area of each valve **8.29 sq in** Pressure to which they are adjusted **185** Are they fitted with easing gear **yes**  
 Smallest distance between boilers or uptakes and bunkers or woodwork **18"** Mean dia. of boilers **16-0** Length **11-9** Material of shell plates **S**  
 Thickness **1 1/4** Range of tensile strength **283 to 323 tons** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **D.R. lap**  
 long. seams **T.R., D.B.S.** Diameter of rivet holes in long. seams **1 9/32** Pitch of rivets **8 5/8** Lap of plates or width of butt straps **18"**  
 Per centages of strength of longitudinal joint rivets **89** plate **85-15** Working pressure of shell by rules **180.3** Size of manhole in **end** **16x12**  
 Size of compensating ring **flanged** No. and Description of Furnaces in each boiler **Four, Susp. bulb** Material **S** Outside diameter **39 1/16**  
 Length of plain part top **17** bottom **32** Thickness of plates crown **17** bottom **32** Description of longitudinal joint **weld** No. of strengthening rings **1**  
 Working pressure of furnace by the rules **210** Combustion chamber plates: Material **S** Thickness: Sides **1 1/16** Back **23/32** centre **1 1/16** Top **1 1/16** Bottom **1 1/16**  
 Pitch of stays to ditto: Sides **9 3/4 x 9 1/4** Back **11 1/8 x 8 5/8** Top **9 3/4 x 9 1/4** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **180-2**  
 Material of stays **S** Area at smallest part **2.03 sq in** Area supported by each stay **95.95 sq in** Working pressure by rules **190** End plates in steam space: Material **S** Thickness **1 1/4** Pitch of stays **21 3/4 x 16** How are stays secured **D.N. & W.** Working pressure by rules **182.5** Material of stays **S**  
 Area at smallest part **6.1 sq in** Area supported by each stay **348 sq in** Working pressure by rules **182.3** Material of Front plates at bottom **S**  
 Thickness **25/32** Material of Lower back plate **S** Thickness **7/8** Greatest pitch of stays **14 1/4** Working pressure of plate by rules **180.4**  
 Diameter of tubes **3 1/4** Pitch of tubes **4 1/4 x 4 1/2** Material of tube plates **S** Thickness: Front **25/32** Back **25/32** Mean pitch of stays **11**  
 Pitch across wide water spaces **14** Working pressures by rules **198** Girders to Chamber tops: Material **S** Depth and thickness of girder at centre **9 x 1 1/2** Length as per rule **2-8 1/2** Distance apart **9 1/4** Number and pitch of stays in each **2 @ 9 3/4**  
 Working pressure by rules **189.4** Steam dome: description of joint to shell **yes** % of strength of joint **yes**  
 Diameter **yes** Thickness of shell plates **yes** Material **yes** Description of longitudinal joint **yes** Diam. of rivet holes **yes**  
 Pitch of rivets **yes** Working pressure of shell by rules **yes** Crown plates **yes** Thickness **yes** 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**

If not, state whether, and when, one will be sent



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? *—*

SPARE GEAR. State the articles supplied:— *Two connecting rod top and bottom end bolts and nuts, one set of coupling bolts, two holding down bolts, one set of feed and bilge pump valves iron and bolts of various sizes, one propeller, one bottom end bearing two eccentric rods and one eccentric strap.*

The foregoing is a correct description,  
FOR RICHARDSON, WESTGARTH & CO. LTD

*Richard Russell*

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1920. Oct. 29. Nov. 12. 19. 25. Dec. 7. 21. 22. 21. 1921. Jan. 11. 13. 14. 27. Feb. 5. 10. 15. 17. 22. 23. 25. Mar. 11. 17. 19. 23. During erection on board vessel -- 31. Apr. 12. 25. 28. 29. May. 5. 6. 10. 13. 24. June 13. 15. 17. 21. 27. 29. 30. July. 7. 12. 18. 29. 28. Aug. 7. 19. Nov. 29. Total No. of visits *49* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders *12-4-21* Slides *12-4-21* Covers *12-4-21* Pistons *12-4-21* Rods *12-4-21* Connecting rods *31-3-21* Crank shaft *16-2-21* Thrust shaft *12-11-20* Tunnel shafts *23-2-21* Screw shaft *25-4-21* Propeller *12-4-21* Stern tube *13-6-21* Steam pipes tested *29-6-21; 7-7-21* Engine and boiler seatings *16-6-21* Engines holding down bolts *12-7-21* Completion of pumping arrangements *29-11-21* Boilers fixed *30-6-21* Engines tried under steam *9-8-21* Completion of fitting sea connections *22-2-21* Stern tube *15-6-21* Screw shaft and propeller *16-6-21* Main boiler safety valves adjusted *9-8-21* Thickness of adjusting washers *Port boiler: - both 7/16", Starboard boiler: - P 13/32", S 3/8"* Material of Crank shaft *Steel* Identification Mark on Do. *6202.A.B.* Material of Thrust shaft *Steel* Identification Mark on Do. *5557.E.W.R.* Material of Tunnel shafts *Iron* Identification Marks on Do. *2428.E.W.R.* Material of Screw shafts *Iron* Identification Marks on Do. *2428.E.W.R.* Material of Steam Pipes *Solid drawn copper* Test pressure *400 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 *No* If so, state name of vessel *✓*

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

*The Materials and Workmanship are good. The Machinery has been built under Special Survey and is eligible in our opinion for classification and the record + LMC 12, 21*

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 11.21. CL.

*J.W.D. Paul*  
5/12/21

The amount of Entry Fee ... £ *5* : : When applied for,  
Special ... £ *72* : " : *22nd Nov 21*  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : *5.12.21*

*Ed. W. Hutton & S. Davis*  
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute *TUE 6 DEC 1921*

Assigned *+ L.M.C. 11.21*

*C.L.*

CERTIFICATE WRITTEN



© 2020  
Lloyd's Register  
Foundation

SUNDERLAND.

Certificate (if required) to be sent to  
The Surveyors are requested not to write on or below the space for Committee's Minute.