

# REPORT ON MACHINERY.

No. 59005  
U.F.S. 30 AUG 1910

Received at London Office

Date of writing Report 19 When handed in at Local Office 29 AUG 1910 Port of Newcastle on Tyne & Ha. & Harb.

No. in Survey held at Reg. Book. Date, First Survey 13<sup>th</sup> May 1910 Last Survey 28<sup>th</sup> Sept 1910 (Number of Visits 1)

on the *Smith's Is. "Deau Forest"* Master Built at *Middlesbrough* By whom built *Geo. Smith's Dock Co. Ltd* When built 1910

Engines made at *North Shields* By whom made *Shields Engineering Co. Ltd* when made 1910

Boilers made at *South Shields* By whom made *J. T. Eltringham & Co* when made 1910

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Section 28 62 Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *no*

**ENGINES, &c.**—Description of Engines *Inverted Compound* No. of Cylinders 2 No. of Cranks 2  
 Dia. of Cylinders 16" x 34" Length of Stroke 24" Revs. per minute 110 Dia. of Screw shaft as per rule 7.3" Material of screw shaft *Steel*  
 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 3.0"  
 Dia. of Tunnel shaft as per rule 6.7" Dia. of Crank shaft journals as per rule 7.0" Dia. of Crank pin 7.3" Size of Crank webs 4 1/2" x 13 3/4" Dia. of thrust shaft under collars 7 3/16" Dia. of screw 8" x 8" Pitch of Screw 10.9" No. of Blades 4 State whether moveable *no* Total surface 33.84"  
 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 *one* Sizes of Pumps 6 x 4 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2 of 2" In Holds, &c. 1 of 2" from hold  
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump *Yes* Is 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 *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 + fore peak tank under* 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*  
 Dates of examination of completion of fitting of Sea Connections 10.8.10 of Stern Tube 10.8.10 Screw shaft and Propeller 10.8.10  
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

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

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers  
 Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate  
 Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler  
 Area of each valve Pressure to which they are adjusted Are they fitted with easing gear  
 Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates  
 Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams  
 long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
 Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell  
 Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter  
 Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings  
 bottom Thickness of plates bottom  
 Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
 Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules  
 Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:  
 Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays  
 Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom  
 Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
 Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays  
 Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and  
 thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each  
 Working pressure by rules Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked  
 separately 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

W494-0053

**VERTICAL DONKEY BOILER—** Manufacturers of Steel

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 \_\_\_\_\_

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 \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ 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 Top end, 2 bottom end, 2 Main bearing + 1 set of Coupling bolts, 1 set feed & bilge pump Valves, 6 piston bolts & brass nuts, 1 propeller, 1 set piston rings for each piston, bolts & nuts assorted & iron sizes

The foregoing is a correct description,  
*Jno. Blakey* Manufacturer.  
 FOR THE SHIELDS ENGINEERING & DRY DOCK CO., LIMITED

Dates of Survey while building

During progress of work in shops --	1910 May. 13. 19. 26. Jun. 2. 14. 29. Jul. 8. 21. Aug. 8. 9. 10. 12. 17.
During erection on board vessel --	Sept. 28.
Total No. of visits	13 + 2

Is the approved plan of main boiler forwarded herewith  Yes

Dates of Examination of principal parts—Cylinders 14.6.10 Slides 14.6.10 Covers 29.6.10 Pistons 14.6.10 Rods 14.6.10

Connecting rods 14.6.10 Crank shaft 16.5.10 Thrust shaft 16.5.10 Tunnel shafts ✓ Screw shaft 16.5.10 Propeller 8.7.10

Stern tube 9.8.10 Steam pipes tested 12.8.10 Engine and boiler seatings 9.8.10 Engines holding down bolts 17.8.10

Completion of pumping arrangements 17.8.10 Boilers fixed 17.8.10 Engines tried under steam 17.8.10

Main boiler safety valves adjusted 17.8.10 Thickness of adjusting washers P.  $\frac{11}{32}$  - S  $\frac{3}{8}$  -

Material of Crank shaft *Steel* Identification Mark on Do. *79 E.M.S.* Material of Thrust shaft *Steel* Identification Mark on Do. *79 E.M.S.*

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Steel* Identification Marks on Do. *79 E.M.S.*

Material of Steam Pipes *Copper* Test pressure *260 lbs*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey the workmanship and materials used are both of good quality. The engines have been tried under steam and worked satisfactorily.*

We beg to recommend that this vessel is eligible in our opinion to have the record **L.M.C. 9-10** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 9.10.

The amount of Entry Fee	£ 1 : 0	When applied for, 29 AUG 1910
Special	£ 9 : 6	
Donkey Boiler Fee	£ :	When received, 31 Aug 1910
Travelling Expenses (if any)	£ :	

*K. W. Coomber & A. A. Mitchell*  
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned  
 FRI. 14 OCT 1910  
 + L.M.C. 9.10  
 MACHINERY CERTIFICATE WRITTEN.



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