

## REPORT ON MACHINERY.

No. 24221

Received at London Office

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Date of writing Report Sept 15 1911 When handed in at Local Office 19. 9. 1911 Port of Hull  
No. in Survey held at Hull Date, First Survey Mar 17<sup>th</sup> Last Survey Sep 13<sup>th</sup> 1911  
Reg. Book. 4 on the Shelley "FACI" (Number of Visits 36) Gross 158  
Master By whom built Bochran Sons Tons 68  
Engines made at Hull By whom made Amos Smith Ltd when made 1911  
Boilers made at 8 By whom made 5 when made 8  
Registered Horse Power 61 Owners G. Guist Port belonging to Tanger  
Nom. Horse Power as per Section 28 61 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Two 100 h.p. expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 11 1/2 - 20 - 33 Length of Stroke 24 Revs. per minute 119 Dia. of Screw shaft 7 1/4 Material of screw shaft Steel  
Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 No 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 33  
Dia. of Tunnel shaft 6 1/2 Dia. of Crank shaft journals 6 3/4 Dia. of Crank pin 6 1/2 Size of Crank webs 2 1/2 - 4 1/2 Dia. of thrust shaft under collars 6 1/2 Dia. of screw 8 1/3 Pitch of Screw 11 1/2 No. of Blades 4 State whether moveable No Total surface 25 1/4  
No. of Feed pumps one Diameter of ditto 2 1/2 Stroke 13 Can one be overhauled while the other is at work Yes  
No. of Bilge pumps one Diameter of ditto 2 1/2 Stroke 13 Can one be overhauled while the other is at work Yes  
No. of Donkey Engines one Sizes of Pumps 4 1/2 - 2 1/2 - 4 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2 - 2 - 7 ft. 6 in. aft In Holds, &c. 1 - 2 (Fore head)

No. of Bilge Injections one 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 Suction 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 27. 6. 11 of Stern Tube 27. 6. 11 Screw shaft and Propeller 27. 6. 11  
Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix & Howard  
Total Heating Surface of Boilers 980 1/2 Is Forced Draft fitted No No. and Description of Boilers 1 S.E. Multitubular  
Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb. Date of test 27. 7. 11 No. of Certificate 1829  
Can each boiler be worked separately Yes Area of fire grate in each boiler 32.5 1/2 No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 4.9 1/2 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 7 1/2 Mean dia. of boilers 11 1/2 Length 9 1/2 Material of shell plates Steel  
Thickness 15 Range of tensile strength 29-33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams SR Lap long. seams SR 5 in. Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 7 1/4 Top of plates or width of butt straps 15 3/8  
Per centages of strength of longitudinal joint rivets 91.4 Working pressure of shell by rules 183 Size of manhole in shell 16 1/2 x 12 plate 85.7  
Size of compensating ring 40 x 30 x 1 1/2 No. and Description of Furnaces in each boiler 2 plain Material Steel Outside diameter 3 1/2  
Length of plain part top 21 bottom 65 Thickness of plates crown 1 3/4 bottom 1 1/4 Description of longitudinal joint Welded No. of strengthening rings 1  
Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 1/2 Back 1/2 Top 1/2 Bottom 3/4  
Pitch of stays to ditto: Sides 8 1/2 x 9 1/2 Back 8 1/2 x 9 1/2 Top 8 1/2 x 9 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 196  
Material of stays Steel Diameter at smallest part 3/4 x 2 1/2 Area supported by each stay 83 Working pressure by rules 222 End plates in steam space: Material Steel Thickness 1 1/2 Pitch of stays 16 x 15 How are stays secured Nuts & washers Working pressure by rules 222 Material of stays Steel  
Diameter at smallest part 6 1/2 Area supported by each stay 240 Working pressure by rules 222 Material of Front plates at bottom Steel  
Thickness 3/2 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 14 x 8 1/2 Working pressure of plate by rules 185  
Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 3/32 Back 27/32 Mean pitch of stays 9 1/2  
Pitch across wide water spaces 14 Working pressures by rules 184 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2 x 1 1/2 Length as per rule 2 1/2 Distance apart 9 Number and pitch of stays in each 20 8 1/2  
Working pressure by rules 192 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately Yes  
Diameter 10 Length 10 Thickness of shell plates 1/2 Material Steel Description of longitudinal joint Welded Diam. of rivet holes 1 1/2 Pitch of rivets 7 1/4 Working pressure of shell by rules 183 Diameter of flue 10 Material of flue plates Steel Thickness 1/2  
If stiffened with rings Yes Distance between rings 10 Working pressure by rules 183 End plates: Thickness 1 1/2 How stayed Yes  
Working pressure of end plates 192 Area of safety valves to superheater 10 Are they fitted with easing gear Yes

W1443-0068



# 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	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing 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:— *Two top & two bottom end connecting rods bolts & nuts, one set of coupling bolts & nuts, one set of feed & fly pump rods, one main & one donkey feed check valves, one set of air & circulating pump valves, assorted bolts & nuts etc.*

**FOR AMOS & SMITH LTD.**

The foregoing is a correct description,

Manufacturer.

Managing Director.

Dates of Survey while building	During progress of work in shops --	1911: Mar 17, Apr 13, May 8, 11, 14, 21, Jun 7, 13, 16, 21, 27, July 3, 7, 14, 15, 18, 21, 24, 25, 26
	During erection on board vessel ---	27 Aug 3, 4, 8, 12, 14, 16, 17, 22, 23, 28, 29 Sep 4, 6, 11, 13
	Total No. of visits	36-

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—		Cylinders 18.7.11	Slides 8.8.11	Covers 18.7.11	Pistons 3.8.11	Rods 3.8.11
Connecting rods 3.7.11	Crank shaft 8.8.11	Thrust shaft 13.6.11	Tunnel shafts	Screw shaft 13.6.11	Propeller 13.6.11	
Stern tube 13.6.11	Steam pipes tested 17.8.11	Engine and boiler seatings 27.6.11	Engines holding down bolts 12.8.11			
Completion of pumping arrangements 13.9.11	Boilers fixed 12.8.11	Engines tried under steam 13.9.11				
Main boiler safety valves adjusted 23.8.11	Thickness of adjusting washers $P\frac{5}{16} S\frac{5}{16} + \frac{1}{4}$					
Material of Crank shaft <i>Steel</i>	Identification Mark on Do. <i>804</i>	Material of Thrust shaft <i>Steel</i>	Identification Mark on Do. <i>804</i>			
Material of Tunnel shafts	Identification Marks on Do.	Material of Screw shafts <i>Steel</i>	Identification Marks on Do. <i>804</i>			
Material of Steam Pipes <i>Solid drawn Copper</i>	Test pressure <i>360 lbs.</i>					

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery & boiler of this vessel have been constructed under Special Survey, are of good material & workmanship have been fully examined & found in accordance with the Rules. They are now in good working condition & are respectfully submitted as being eligible in my opinion to have record of T.C.N.C. 9-11 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 9.11.

*J.W.D.*  
30/9/11

The amount of Entry Fee .. £	0 0	When applied for, 18.9.11.
Special .. £	9 3 0	
Donkey Boiler Fee .. £		When received, 22.9.11.
Travelling Expenses (if any) £	8 2	

Committee's Minute

Assigned

*John W. Gwynne*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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