

## REPORT ON MACHINERY.

No. 34494

Received at London Office

Date of writing Report 19 When handed in at Local Office 19 Port of **GLASGOW**

No. in Survey held at **Glasgow** Date, First Survey **14/8/13** Last Survey **17-10 1914**  
 Reg. Book. **S/S "Umetta"** (Number of Visits **7**)

Master **Moxon** Built at **Glasgow** By whom built **Alex Stephen, Son & Co (461)** When built **1914**  
 Engines made at **Glasgow** By whom made **Alex Stephen, Son & Co (461)** when made **1914**  
 Boilers made at **ditto** By whom made **ditto (461)** when made **1914**  
 Registered Horse Power Owners **British India S. N. Co. Ltd.** Port belonging to **London**  
 Nom. Horse Power as per Section 28 **468** 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 **22 1/2 - 38 - 65** Length of Stroke **48** Revs. per minute **75** Dia. of Screw shaft **14.35** Material of screw shaft **S**  
 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 **5-2**  
 Dia. of Tunnel shaft **12.7** Dia. of Crank shaft journals **13.33** Dia. of Crank pin **13.34** Size of Crank webs **26 1/4 x 8 3/8** Dia. of thrust shaft under collars **13 3/4** Dia. of screw **17.6** Pitch of Screw **16-0** No. of Blades **4** State whether moveable **Yes** Total surface **904**  
 No. of Feed pumps **2** Diameter of ditto **5** Stroke **24** Can one be overhauled while the other is at work **Yes**  
 No. of Bilge pumps **2** Diameter of ditto **4 1/2** Stroke **24** Can one be overhauled while the other is at work **Yes**  
 No. of Donkey Engines **3** Sizes of Pumps **9 1/2 x 12, 6 1/4 x 10, 9 x 11 x 12** No. and size of Suctions connected to both Bilge and Donkey pumps **4 at 3 1/2**  
 In Engine Room **4 at 3 1/2** In Holds, &c. **2-3 1/2 in holds**  
 Tunnel drill **1-2 1/2**  
 No. of Bilge Injections **1** sizes **8** Connected to **condensers** or to circulating pump **Yes** Is a separate Donkey Suction fitted in Engine room & size **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 **both**  
 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 **Bilge Suction** How are they protected **Good 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 **22.9.14** of Stern Tube **22.9.14** Screw shaft and Propeller **22.9.14**  
 Is the Screw Shaft Tunnel watertight **Yes** Is it fitted with a watertight door **Yes** worked from **U E R Platform**

**BOILERS, &c.**—(Letter for record **S**) Manufacturers of Steel **Glasgow, Colville & Beaudouin**  
 Total Heating Surface of Boilers **4011** Is Forced Draft fitted **Yes** No. and Description of Boilers **3 Single Ended**  
 Working Pressure **215** Tested by hydraulic pressure to **H30** Date of test **15.4.14** No. of Certificate **12816**  
 Can each boiler be worked separately **Yes** Area of fire grate in each boiler **573 1/4** No. and Description of Safety Valves to each boiler **Double Spring** Area of each valve **4.06** Pressure to which they are adjusted **220** Are they fitted with easing gear **Yes**  
 Smallest distance between boilers or uptakes and bunkers or woodwork **18** Mean dia. of boilers **14-10 1/8** Length **11-6** Material of shell plates **S**  
 Thickness **15/8** Range of tensile strength **28/32** Are the shell plates welded or flanged **Yes** Descrip. of riveting: cir. seams **DR**  
 long. seams **TRIDBS** Diameter of rivet holes in long. seams **15/8** Pitch of rivets **10 1/2** Lap of plates or width of butt straps **23 1/4**  
 Per centages of strength of longitudinal joint **90.39** Working pressure of shell by rules **241** Size of manhole in shell **16 x 12**  
 Size of compensating ring **M. N. H. 15** No. and Description of Furnaces in each boiler **3 Corrugated** Material **S** Outside diameter **3-10 1/4**  
 Length of plain part **top 43 bottom 64** Thickness of plates **7/16** Description of longitudinal joint **weld** No. of strengthening rings **1**  
 Working pressure of furnace by the rules **226** Combustion chamber plates: Material **S** Thickness: Sides **11/16** Back **11/16** Top **11/16** Bottom **29/32**  
 Pitch of stays to ditto: Sides **8 x 9** Back **10 x 7 3/16** Top **8 x 8 3/4** If stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **226**  
 Material of stays **S** Diameter at smallest part **2 1/4** Area supported by each stay **42** Working pressure by rules **223** End plates in steam space: Material **S** Thickness **1 1/16** Pitch of stays **15 1/2 x 7 3/4** How are stays secured **DN** Working pressure by rules **217** Material of stays **S**  
 Diameter at smallest part **6 6/8** Area supported by each stay **245** Working pressure by rules **243** Material of Front plates at bottom **S**  
 Thickness **7/8** Material of Lower back plate **S** Thickness **29/32** Greatest pitch of stays **13 1/2 x 7 3/16** Working pressure of plate by rules **240**  
 Diameter of tubes **2 1/2** Pitch of tubes **3 3/4 x 3 7/8** Material of tube plates **S** Thickness: Front **7/8 DP** Back **13/16** Mean pitch of stays **7.6**  
 Pitch across wide water spaces **13 1/2** Working pressures by rules **221** Girders to Chamber tops: Material **S** Depth and thickness of girder at centre **9 1/2 x 15/16 (2)** Length as per rule **2-10 1/2** Distance apart **8 3/4** Number and pitch of stays in each **3 at 8**  
 Working pressure by rules **214** 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

W711-0113



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  
 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 Connecting Rod bolts nuts for top ind. ditto for bottom ind. 2 main bearing bolts. 1 set of Coupling bolts. 1 set of Feed. Bridge Pump valves. 1 set of Piston Rings. a quantity of assorted bolts nuts. Iron of various sizes. 1 Propeller shaft. 2 Propeller blades. 1/3 Crank shaft. 1 Valve spindle. 1 Air pump Rod complete. 1 set of Eccentric straps complete. an Circulating Pump Impeller. Spindle

The foregoing is a correct description,

Alex. Stephen & Son Ltd. Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- 1913 Aug 14-19-22 Sept 10-23 Oct 1-16-20-31 Nov 7-11-26 Dec 2-8-15-25 1914 Jan 7-13-21-29  
 During erection on board vessel -- Feb 18-24 Mar 2-13-25-30 Apr 7-20-24 May 1-11-27 June 4-10-24 July 1-8-13-15-17-25-30  
 Total No. of visits 60  
 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 27. 5-14 Slides 24. 6-14 Covers 27 5-14 Pistons 27 5-14 Rods 24. 6-14  
 Connecting rods 24. 6-14 Crank shaft 1- 5-14 Thrust shaft 27 5-14 Tunnel shafts 27 5-14 Screw shaft 28. 8-14 Propeller 1- 5-14  
 Stern tube 3. 8-14 Steam pipes tested 12-10-14 Engine and boiler seatings 17. 9. 14 Engines holding down bolts 7. 10-14  
 Completion of pumping arrangements 13- 10-14 Boilers fixed 4- 10-14 Engines tried under steam 17- 10-14  
 Main boiler safety valves adjusted 13- 10-14 Thickness of adjusting washers FV 1/32 AY 5/16 FV 1/32 AY 5/16 FV 5/16 AY 5/16  
 Material of Crank shaft \$ Identification Mark on Do. H 0 Y D S W G M Material of Thrust shaft \$ Identification Mark on Do. H 0 Y D S W G M  
 Material of Tunnel shafts \$ Identification Marks on Do. H 61 Material of Screw shafts \$ Identification Marks on Do. H 61  
 Material of Steam Pipes Steel Test pressure 645 lb

General Remarks (State quality of workmanship, opinions as to class, &c. These engines & boilers have been built under special survey in accordance with the approved plans, the workmanship & material are of good quality  
 The machinery is eligible in my opinion for the record of LMC 10-14  
 This vessel is a duplicate of the 8/8 "Lucaria" 4th Rpt. 91 34300.

It is submitted that this vessel is eligible for

THE RECORD, + LMC 10. 14.

F. D.

JWD. 22/10/14.

APR 21

The amount of Entry Fee .. £ 3 : - : When applied for, 19/10/14  
 Special .. £ 43. 8 : :  
 Donkey Boiler Fee .. £ : : : When received, 20/10/14  
 Travelling Expenses (if any) £ : : :

W. Gordon Mitchell

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. OCT 23. 1914

Assigned

Lm 6 1014

F. D.



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