

REPORT ON MACHINERY.

No. 11386

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Date of writing Report *28th Jan 1914* When handed in at Local Office *31st Jan 1914* Port of *Aberdeen*
 No. in Survey held at *Aberdeen* Date, First Survey *20th June 1913*. Last Survey *26th Jan 1914*
 Reg. Book. *S.S. "BEGA"* (Number of Visits *38*)
 Master *R. Collinson* Built at *Aberdeen* By whom built *J. Guthrie & Co. S. B. 2* Tons Gross *318.09*
 Engines made at *Aberdeen* By whom made *J. Abernethy & Co. (No 879)* when made *1914* Net *131.19*
 Boilers made at *Aberdeen* By whom made *J. Abernethy & Co. (- " -)* when made *1914* When built *1914*
 Registered Horse Power *89.1* Owners *New Dock Steam Fishing Co* Port belonging to *Fleetwood*
 Nom. Horse Power as per Section 28 *94* 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 *13 1/4 x 23 x 37* Length of Stroke *27* Revs. per minute *110* Dia. of Screw shaft *7.8* Material of Screw shaft *Scrap 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 *40"*
 Dia. of Tunnel shaft *6.94* Dia. of Crank shaft journals *7.25* Dia. of Crank pin *7.2* Size of Crank webs *10 1/4 x 14 1/8* Dia. of thrust shaft under collars *7.2* Dia. of screw *9-6* Pitch of Screw *11-6* No. of Blades *4* State whether moveable *No* Total surface *34*
 No. of Feed pumps *2* Diameter of ditto *2 3/4* Stroke *13 1/2* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *2 3/4* Stroke *13 1/2* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *Two* Sizes of Pumps *Feed Duplex 6 x 4 x 6" General 6 x 6 x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *1 - 2" dia* In Holds, &c. *1 each 2" dia in Fish hold & Fore Compartment*
Also ejector drawing from all parts, with 2" direct suction in Engine room
 No. of Bilge Injections *1* sizes *3 1/2* Connected to condenser, or to circulating pump *C.P.* Is a separate Donkey Suction fitted in Engine room of size *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 *No*
 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 *Suctions from Fish room & Fore Compartment* How are they protected *Strong 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 *17-12-13* of Stern Tube *17-12-13* Screw shaft and Propeller *17-12-13*
 Is the Screw Shaft Tunnel watertight *No* Is it fitted with a watertight door *Yes* worked from *Yes*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *J. Colville & Sons & W. Beardmore & Co*
 Total Heating Surface of Boilers *1682* Is Forced Draft fitted *No* No. and Description of Boilers *One Sgl ended Cyl Multitubular*
 Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *26-11-13* No. of Certificate *777*
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *53* No. and Description of Safety Valves to each boiler *Two Spring loaded* Area of each valve *5.94* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *7"* INSIDE Mean dia. of boilers *13-6"* Length *11-6"* Material of shell plates *S*
 Thickness *1 3/32"* Range of tensile strength *28-32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *d. t. Lap*
 Long. seams *Shell straps* Diameter of rivet holes in long. seams *1 3/16"* Pitch of rivets *8 3/8"* Lap of plates or width of butt straps *1 1/8"*
 Percentages of strength of longitudinal joint *87.2* Working pressure of shell by rules *181 lbs* Size of manhole in shell *16" x 12"*
 Size of compensating ring *In Reils (29)* No. and Description of Furnaces in each boiler *Three plain* Material *S* Outside diameter *40 1/2"*
 Length of plain part *78 3/8"* Thickness of plates *25/32"* Description of longitudinal joint *weld* No. of strengthening rings *3 1/2 x 3 1/2 x 3 1/2*
 Working pressure of furnace by the rules *182.5* Combustion chamber plates: Material *S* Thickness: Sides *23/32"* Back *23/32"* Top *23/32"* Bottom *23/32"*
 Pitch of stays to ditto: Sides *10 x 9"* Back *10 x 8 1/2"* Top *10 1/2 x 8"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *206*
 Material of stays *S* Diameter at smallest part *1 5/8"* Area supported by each stay *85* Working pressure by rules *218 lbs* End plates in steam space: Material *S* Thickness *1 3/32"* Pitch of stays *20 x 20* How are stays secured *S. Nuts* Working pressure by rules *184* Material of stays *S*
 Diameter at smallest part *3 1/16"* Area supported by each stay *400* Working pressure by rules *188* Material of Front plates at bottom *S*
 Thickness *7/8"* Material of Lower back plate *S* Thickness *7/8"* Greatest pitch of stays *13 1/2 x 8 1/2"* Working pressure of plate by rules *213*
 Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4 x 4 3/4"* Material of tube plates *S* Thickness: Front *7/8"* Back *7/8"* Mean pitch of stays *9 1/2"*
 Pitch across wide water spaces *13 1/2"* Working pressures by rules *182* Girders to Chamber tops: Material *S* Depth and thickness of girder at centre *10 x 13 1/4"* Length as per rule *34 9/16"* Distance apart *10 1/2"* Number and pitch of stays in each *Three 8"*
 Working pressure by rules *193* Superheater or Steam chest; how connected to boiler *Yes* Can the superheater be shut off and the boiler worked separately *Yes*
 Diameter *Yes* Length *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* Diameter of flue *Yes* Material of flue plates *Yes* Thickness *Yes*
 Stiffened with rings *Yes* Distance between rings *Yes* Working pressure by rules *Yes* End plates: Thickness *Yes* How stayed *Yes*
 Working pressure of end plates *Yes* Area of safety valves to superheater *Yes* Are they fitted with easing gear *Yes*

VERTICAL DONKEY BOILER— Manufacturers of Steel

| | | | |
|--------------------------------------|--|---------------------------|-------------------------------------|
| No. | Description | | |
| Made at | By whom made | When made | Where fired |
| Working pressure | tested by hydraulic pressure to | Date of test | No. of Certificate |
| Valves | No. of Safety Valves | Area of each | Pressure to which they are adjusted |
| If fitted with easing gear | If steam from main boilers can enter the donkey boiler | | Dia. of donkey boiler |
| 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 |
| Working pressure of shell by rules | Thickness of shell crown plates | Radius of do. | No. of stays to do. |
| Diameter of furnace Top | Bottom | Length of furnace | Thickness of furnace plates |
| 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:— 1 set each of top & bottom end, main bearing & coupling bolts, 6 piston bolts & nuts, 1 set each of bilge & feed pump valves & seats, 1 set air pump valves, 3 check valves, 1 safety valve spring, 12 Condenser tubes & 24 ferrules, 6 Boiler tubes (plain), assorted nuts, bolts and iron.

The foregoing is a correct description,

Manufacturer. *James Kennedy & Co. Ltd.*

Dates of Survey while building: During progress of work in shops -- 1913/ June 20-23, July 2-5-10-16-28, Aug 5-12, Sept 5-9-11-16-23-24, Oct 3-9-16-27-31, Nov 5-19-20
 During erection on board vessel -- Dec 3-9-18-11-12, Dec 17-19-22, Jan 7-8-13-16-23-26-28.
 Total No. of visits 38.

Is the approved plan of main boiler forwarded herewith Yes No

Dates of Examination of principal parts—Cylinders 16-9-13 Slides 26-11-13 Covers 9-9-13 Pistons 11-9-13 Rods 11-9-13
 Connecting rods 9-9-13 Crank shaft 31-10-13 Thrust shaft 31-10-13 Tunnel shafts — Screw shaft 26-11-13 Propeller 17-12-13
 Stern tube 9-12-13 Steam pipes tested 7-1-14 Engine and boiler seatings 17-12-13 Engines holding down bolts 8-1-14
 Completion of pumping arrangements 16-1-14 Boilers fixed 8-1-14 Engines tried under steam 26-1-14
 Main boiler safety valves adjusted 26-1-14 Thickness of adjusting washers P. 11/32 S. 11/32
 Material of Crank shaft *SCRAP IRON* Identification Mark on Do. 3474 Material of Thrust shaft *STEEL* Identification Mark on Do. 3474
 Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts *SCRAP IRON* Identification Marks on Do. 461
 Material of Steam Pipes *Seamless copper No 6 W.G. 4" Bolt* Test pressure 360 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)
 These Engines, and the Boilers, have been constructed under special survey, and in accordance with the Secretary's letter, the Rules and approved plan. The materials and workmanship are good. When completed and properly fitted on board they were tried under steam and found satisfactory, and in my opinion are eligible to be classed in the Register Book with record **L.M.C. 1-1**.

It is submitted that this vessel is eligible for **THE RECORD. + LMC 1.14.**

J.W.D. 4/3/14

The amount of Entry Fee .. £ 1 : 0 :
 Special .. £ 14 : 2 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for. 3 : 2 : 1914
 When received. 27 : 2 : 14

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

Committee's Minute **FRI. FEB. 6 - 1914**
 Assigned *+ L.M.C. 1.14.*

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