

# REPORT ON MACHINERY

No. 16927  
THU. 21 OCT. 1915

Received at London Office

Date of writing Report 9/10/15 When handed in at Local Office 9/10/15 Port of Greenock  
 No. in Survey held at Greenock Date, First Survey 27<sup>th</sup> Jan'y 1915 Last Survey 7<sup>th</sup> Oct. 1915  
 Reg. Book. S.S. Alston (Number of Visits 40)  
 Master James A. S. Adams Built at Greenock By whom built Dunlop Bremner & Co. Ltd Gross 2426  
 Engines made at Greenock By whom made Dunlop Bremner & Co. Ltd when made 1915 Net 1474  
 Boilers made at Do By whom made Kincaid & Co. Ltd when made 1915  
 Registered Horse Power \_\_\_\_\_ Owners Swansea Steamers Ltd Port belonging to Swansea  
 Nom. Horse Power as per Section 28 255 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 21 1/2 - 35 - 59 Length of Stroke 39 Revs. per minute 94 Dia. of Screw shaft 12 1/2 Material of 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 \_\_\_\_\_ 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 \_\_\_\_\_ If two  
 liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush 4 - 4 3/8  
 Dia. of Tunnel shaft 10 3/8 Dia. of Crank shaft journals 11 3/8 Dia. of Crank pin 12 Size of Crank webs 16 1/2 x 7 1/2 Dia. of thrust shaft under  
 collars 11 1/2 Dia. of screw 15 - 9 Pitch of Screw 15 - 9 No. of Blades 4 State whether moveable Solid Total surface 70 sq  
 No. of Feed pumps 2 Diameter of ditto 3 Stroke 21 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4 Stroke 21 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 3 Sizes of Pumps SALLAST 1 1/2 x 8 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps  
GENERAL 6 x 4 1/2 x 6  
AUX 4 1/2 x 2 1/2 x 4  
 In Engine Room One 3" on St. side, 2, 3" on S.S. side, 1 1/2" Tunnel In Holds, &c. Fore hold, One 3" each side, Aft hold One 2 1/2"  
each side, Hold well 1, 2, 3"  
 No. of Bilge Injections One sizes 5 1/2 Connected to condenser, or to circulating pump See Pump Is a separate Donkey Suction fitted in Engine room & size Yes 3"  
 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 \_\_\_\_\_  
 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 None How are they protected \_\_\_\_\_  
 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 10/9/15 of Stern Tube 12/8/15 Screw shaft and Propeller 10/9/15  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Eng. Rm. grating

**BOILERS, &c.**—(Letter for record \_\_\_\_\_) Manufacturers of Steel See separate report

Total Heating Surface of Boilers \_\_\_\_\_ Is Forced Draft fitted No No. and Description of Boilers Two cyl multir.  
 Working Pressure 180 Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_  
 Can each boiler be worked separately Yes Area of fire grate in each boiler \_\_\_\_\_ No. and Description of Safety Valves to  
 each boiler 2 Spring loaded Area of each valve 40 Pressure to which they are adjusted 185 lbs sq Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 1 - 6 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 \_\_\_\_\_ 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 \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings  
 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 \_\_\_\_\_



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 bon Rod top end, 2 bon Rod bottom end, 2 Main bearing bolts & nuts, 1 set coupling bolts, 1 set feed pump & 1 set coupling bolts, 1 set feed pump & 1 set bulge pump & 1 set feed pump valves, a quantity of bolts & nuts of various sizes, assorted iron plates & bars, 10 condenser tubes & 21 ferrules, 12 boiler tubes, 1 set firebars for one boiler & junk ring, & 6 cyl cover studs, 1 valve for each main & aux check, 1 set air pump & 1 set feed pump valves, 1 safety valve, 1 feed pump spring, 1 C.I. Propeller, 1 H.P. Piston valve.

The foregoing is a correct description,

DUNLOP, BREMNER & COY., LIMITED

*Jos. Patou* Manufacturer.

Director

Dates of Survey while building { During progress of work in shops -- (1915) Jan. 27-31, Feb. 2-4-22-25, Mar. 1-5-10-25-26-31, Apr. 1-5-6-9-13-14-15-16-19-22-23-24-27, May 1-3-6-7-14-21-24-27-31, June 3-4-8-9-11-15-18-22-23-29-30, Aug. 11-12-13-16-17-18-19-20-21-24-31, Sept. 6-10-14-16-20-22-23-24-27-28, Oct. 4-5-6-7. } During erection on board vessel --- } Total No. of visits 40.

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

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 31/3/15 Slides 29/6/15 Covers 5/4/15 Pistons 8/6/15 Rods 5/4/15 Connecting rods 31/3/15 Crank shaft 21/5/15 Thrust shaft 21/5/15 Tunnel shafts 21/5/15 Screw shaft 9/6/15 Propeller 23/6/15 Stern tube 12/8/15 Steam pipes tested 27/9/15 Engine and boiler seatings 22/9/15 Engines holding down bolts 23/9/15 Completion of pumping arrangements 23/9/15 Boilers fixed 24/9/15 Engines tried under steam 7/10/15 Main boiler safety valves adjusted 24/9/15 Thickness of adjusting washers 5/8" 7/16" 5/16" 7/16" Material of Crank shaft W. Steel Identification Mark on Do. 4330 Material of Thrust shaft W. Steel Identification Mark on Do. 160 Material of Tunnel shafts W. Steel Identification Marks on Do. 160 Material of Screw shafts W. Steel Identification Marks on Do. 160 Material of Steam Pipes COPPER. Test pressure 2360 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 engines & boilers of this vessel have been built under special survey, and the materials & workmanship are good. On completion they were examined while running full power trials in the Firth & found satisfactory.

The machinery throughout is now in a good & efficient condition & eligible in my opinion to have the record **LMC, 10, 15** marked in the Society's Register book.

It is submitted that this vessel is eligible for THE RECORD, + LMC 10. 15.

*J.M. J.W.* 29/10/15

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

The amount of Entry Fee ... £ 2-0-0: When applied for, Special ... £ 32-15-0: 14 Oct 1915. Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 15 Oct 1915.

Committee's Minute GLASGOW 19 OCT. 1915

Assigned + L.M.C. 10, 15.



Certificate (if required) to be sent to *Glasgow*

The Surveyors are requested not to write on or below the space for Committee's Minute.