

# MACHINERY

No. 14521  
14061326

Date of writing Report 13-10-1926 When handed in at Local Office 13-10-1926 Port of Aberdeen  
 No. in Survey held at Aberdeen Date, First Survey 9-2-26 Last Survey 7-10-1926  
 Reg. Book. 79657 on the S.S. "OUTWOOD" (Number of Visits 30)  
 Master Built at Aberdeen By whom built J. Lewis & Sons Ltd (No 99) When built 1926  
 Engines made at Aberdeen By whom made J. Lewis & Sons Ltd. (No 182) when made 1926  
 Boilers made at Aberdeen By whom made J. Lewis & Sons Ltd. (No 98) when made 1926  
 Registered Horse Power Owners E. J. Lindley. Port belonging to London.  
 Nom. Horse Power as per Section 28 87 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 13-23-37 Length of Stroke 26 Revs. per minute 97 Dia. of Screw shaft as per rule 7.71 Material of screw shaft 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 2-10  
 Dia. of Tunnel shaft as per rule 6.88 Dia. of Crank shaft journals as per rule 7.22 Dia. of Crank pin 7.2 Size of Crank webs 11x4.8 Dia. of thrust shaft under  
 rollers 7.2 Dia. of screw 10-0 Pitch of Screw 12-6 No. of Blades 4 State whether maceable no Total surface 37 sq ft  
 No. of Feed pumps 2 Diameter of ditto 2.3/4 Stroke 13.2 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 2.3/4 Stroke 13.2 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 Sizes of Pumps 5x3.2x6, 7x7x8 No. and size of Suctions connected to both Bilge and Donkey pumps yes  
 Engine Room Two 2.4, one fwd. & one aft. In Holds, &c. Two 2.3/4, one port & one starboard  
 No. of Bilge Injections 1 sizes 3.2 Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes 2.3/4  
 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  
 Are all pipes carried through the bunkers Suction pipes to hold. How are they protected below ceiling  
 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  
 Is the Screw Shaft Tunnel watertight no Is it fitted with a watertight door no worked from no

**BOILERS, &c.—(Letter for record S.)** Manufacturers of Steel David Colville & Sons Ltd. Motherwell.  
 Heating Surface of Boilers 1440 sq ft Is Forced Draft fitted no No. and Description of Boilers One single ended  
 Working Pressure 200 lb Tested by hydraulic pressure to 350 lb. Date of test 17-9-26 No. of Certificate 1051  
 Can each boiler be worked separately yes Area of fire grate in each boiler 48 sq ft No. and Description of Safety Valves to 1 SB  
 on boiler 2 spring loaded. Area of each valve 4.91 Pressure to which they are adjusted 200 lb. Are they fitted with easing gear yes  
 Is the distance between boilers or uptakes and bunkers or woodwork alt. 24" INT. Mean dia. of boilers 13-9" Length 10-8" Material of shell plates Steel  
 Range of tensile strength 28/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.  
 Diameter of rivet holes in long. seams 1.4" Pitch of rivets 8.5/8" Lap of plates or width of butt straps 18.5/16"  
 Working pressure of shell by rules 200 lb. Size of manhole in shell 19" x 15"  
 No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 40"  
 Description of longitudinal joint welded No. of strengthening rings no  
 Thickness of plates 13" crown, 16" bottom Combustion chamber plates: Material S Thickness: Sides 3/4" Back 23/32" Top 3/4" Bottom 3/4"  
 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 214  
 Area supported by each stay 880" Working pressure by rules 206 End plates in steam space: S  
 How are stays secured DN. 4W. Working pressure by rules 202 Material of stays S  
 Area supported by each stay 3420" Working pressure by rules 236 Material of Front plates at bottom S  
 Material of Lower back plate S Thickness 15/16" Greatest pitch of stays 13.3/4 x 9.3/4 Working pressure of plate by rules 254  
 Material of tube plates S Thickness: Front 15/16" Back 7/8" Mean pitch of stays 10.3"  
 Working pressures by rules F. 206, 8.26 lb Girders to Chamber tops: Material S Depth and  
 Distance apart 11" Number and pitch of stays in each 3 @ 8"  
 Steam dome: description of joint to shell no % of strength of joint no  
 Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet holes no  
 Working pressure of shell by rules no Crown plates no Thickness no How stayed no  
 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler no  
 Pressure to which each is adjusted no Is Easing Gear fitted no

W483-0162

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set feed, bilge, air & circulating pump valves, spare safety valve & relief valve springs. Main & donkey check valves, quantity of bolts & nuts & iron of various sizes, 1/2 set fire bars, 6 cylinder cover studs & nuts, 6 junk ring studs & nuts, 3 boiler tubes, 3 condenser tubes, propeller.

The foregoing is a correct description, FOR JOHN LEWIS & SONS, LTD.,

Jan J. Donald

Manufacturer.

1926. Dates of Survey while building: During progress of work in shops -- Feb. 9-17-24. March. 2-16. April. 5-12-14-23. May. 6, 24, 31. June. 11, 18, 29. July. 9, 15, 23, 29. During erection on board vessel --- Sept. 16, 22-28-29. Oct. 5-7. Total No. of visits 30.

Is the approved plan of main boiler forwarded herewith yes " " " donkey " " "

Dates of Examination of principal parts—Cylinders 11-6-26 Slides 9-7-26 Covers 11-6-26 Pistons 9-7-26 Rods 9-7-26 Connecting rods 9-7-26 Crank shaft 31-5-26 Thrust shaft 29-7-26 Tunnel shafts Screw shaft 23-7-26 Propeller 23-7-26 Stern tube 23-7-26 Steam pipes tested 29-9-26 Engine and boiler seatings 22-9-26 Engines holding down bolts 28-9-26 Completion of pumping arrangements 7-10-26 Boilers fixed 28-9-26 Engines tried under steam 7-10-26 Completion of fitting sea connections 22-9-26 Stern tube 16-9-26 Screw shaft and propeller 16-9-26 Main boiler safety valves adjusted 5-10-26 Thickness of adjusting washers P. 10/32 S. 13/32 Material of Crank shaft Steel Identification Mark on Do. 187, 189. Material of Thrust shaft Steel Identification Mark on Do. 1074 PE. Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do. 1062 PE. Material of Steam Pipes S. D. Copper, 3 3/4 dia. 6 SWG. Test pressure 600 lbs per sq. in.

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 yes If so, state name of vessel SURBITON. (Abn Rpt No. 11490)

General Remarks (State quality of workmanship, opinions as to class, &c.)

The engines & boiler of this vessel have been built under special survey, & in accordance with the approved plans & the Rules of this Society. The materials & workmanship are good. The machinery has been properly fitted, & secured on board, tried under working conditions, & found good.

The steam & feed pipes have been tested by hydraulic pressure as required by the Rules. The safety valves have been adjusted under steam & tried for accumulation.

The machinery is eligible in my opinion to have the record LMC 10, 26. CL. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 10. 26. CL.

The plates for this boiler were made under British Corporation survey & approved by the Committee 25-3-23.

Please return approved plan for use in dealing with duplicate boiler No 99.

The amount of Entry Fee ... £ 2 : - : When applied for, Special ... £ 21 : 15 : 19 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 7.12.26

For H.C. Foster & Self.

P. Fitzgerald.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 15 OCT 1926

Assigned

+ here 10, 26

TUES. 23 NOV 1926



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Abandon Office.

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

CERTIFICATE WRITTEN