

# REPORT ON BOILERS.

No. 55990  
18 JAN 1909

Date of writing Report 6. 1. 1909 When handed in at Local Office 13 JAN 1909 Received at London Office 18 JAN 1909  
 No. in Survey held at S. Shields Port of Newcastle on Tyne  
 Reg. Book. S.S. HARFORD Date, First Survey 28th April 1908 Last Survey 8th May 1909  
 on the S.S. HARFORD (Number of Visits ✓) Tons } Gross 4412  
 Net 2716  
 Master W. E. Pope Built at S. Shields By whom built J. R. Head & Sons When built 1909.1  
 Engines made at S. Shields By whom made J. R. Head & Sons when made 1909.1  
 Boilers made at ditto By whom made ditto when made 1909.  
 Registered Horse Power ✓ Owners J. & C. Harrison Ltd. Port belonging to London.

## MULTITUBULAR BOILERS — ~~MAIN AUXILIARY~~ OR DONKEY. — Manufacturers of Steel Spencer, Newburn.

(Letter for record ✓) Total Heating Surface of Boilers 852 sq. ft. Is forced draft fitted no. No. and Description of Boilers One 96 h.p. hull S. End Working Pressure 90 lb. Tested by hydraulic pressure to 180 lb. Date of test 30.9.08  
 No. of Certificate 7767 Can each boiler be worked separately ✓ Area of fire grate in each boiler 31 sq. ft. No. and Description of safety valves to each boiler 2. Spring Area of each valve 7.06 sq. in. Pressure to which they are adjusted 90 lb.  
 Are they fitted with easing gear yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no.  
 Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boiler 10'-0" Length 10'-0"  
 Material of shell plates S. Thickness 5/8" Range of tensile strength 27/32 T. Are the shell plates welded or flanged no.  
 Descrip. of riveting: cir. seams L.D.R. long. seams L.D.R. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 4 1/2"  
 Lap of plates or width of butt straps 5 1/2" Per centages of strength of longitudinal joint rivets 71.0 Working pressure of shell by rules 96 lb. Size of manhole in shell 16 x 12" Size of compensating ring 8 x 9 1/2" No. and Description of Furnaces in each boiler 2. Plain Material S. Outside diameter 36" Length of plain part top 78" Thickness of plates crown 1/2" bottom 5/8"  
 Description of longitudinal joint L.D.R. No. of strengthening rings One Working pressure of furnace by the rules 96 lb. Combustion chamber plates: Material S. Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 5/8" Pitch of stays to ditto: Sides 8 1/2" Back 8 1/2"  
 Top 9 1/2" If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 105 lb. Material of stays I. Diameter at smallest part 1.99" Area supported by each stay 73 sq. in. Working pressure by rules 204 lb. End plates in steam space: Material S. Thickness 3/4"  
 Pitch of stays 16" How are stays secured on W. Working pressure by rules 104 lb. Material of stays S. Diameter at smallest part 2.87"  
 Area supported by each stay 286 sq. in. Working pressure by rules 116 lb. Material of Front plates at bottom S. Thickness 1/16" Material of Lower back plate S. Thickness 1/16" Greatest pitch of stays 15 x 12" Working pressure of plate by rules 90 lb. Diameter of tubes 3 1/2"  
 Pitch of tubes 4 1/2" Material of tube plates S. Thickness: Front 1/16" Back 1/16" Mean pitch of stays 13 1/2" Pitch across wide water spaces 13 1/2" Working pressures by rules 98 lb. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 7" x 7 1/2" Length as per rule 23" Distance apart 9 1/2" Number and pitch of Stays in each 2 - 7 1/2"  
 Working pressure by rules 220 lb. Superheater or Steam chest: how connected to boiler none. 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 ✓

The foregoing is a correct description,  
J. R. Head & Sons Manufacturer.

Dates of Survey } During progress of work in shops - - }  
 while building } During erection on board vessel - - }

Please see report on machinery

Is the approved plan of boiler forwarded herewith Yes  
Total No. of visits ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The above Boiler has been constructed under Special Survey. The materials and workmanship are sound and good. It had now been fitted on board the above vessel in a satisfactory manner.

Survey Fee ... £ 2 : 2 : 0 Charged on machy. report  
 Travelling Expenses (if any) £ - : : When received, 19...

W. R. ...  
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute  
Assigned

FRI. 15 JAN 1909

