

# REPORT ON BOILERS.

No. 69600  
and 70939.

Received at London Office MON. 12 FEB. 1917

Date of writing Report 8 July 1917 When handed in at Local Office 10 FEB 1917 Port of **NEWCASTLE ON TYNE.**

No. in Survey held at Newcastle on Tyne. Date, First Survey 24 Feb 1917 Last Survey 23rd April 1918  
 Reg. Book. on the **S.S. Squadron.** (Messrs J.D. Morris & Co.) 64 Tons } Gross 362  
 Net 143

Master Built at Newcastle By whom built J.D. Morris When built 1914

Engines made at So. Shields By whom made G. J. Gray & Co. E. 564 When made 1914

Boilers made at Sellburn By whom made Palmer's S.S. & Coy Ltd No 830 When made 1914

Registered Horse Power Owners (William Mason & Co) Port belonging to Liverpool

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel J. Spencer Sons Ltd.

(Letter for record S.) Total Heating Surface of Boilers 1180 sq ft Is forced draft fitted No. and Description of Boilers one compound mult. Single Working Pressure 150 lbs Tested by hydraulic pressure to 260 lbs Date of test 5/7/17.

No. of Certificate 8930 Can each boiler be worked separately Area of fire grate in each boiler No. and Description of safety valves to each boiler Area of each valve Pressure to which they are adjusted

Are they fitted with easing gear In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 12'0" Length 10'0"

Material of shell plates steel Thickness 2 1/2" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Lap or butt Long. seams S.S. Rivets Diameter of rivet holes in long. seams 1" Pitch of rivets 8"

Lap of plates or width of butt straps 15 1/2" Per centages of strength of longitudinal joint rivets 85.4 Working pressure of shell by plate 80.9

rules 131 lbs Size of manhole in shell 16" x 12" Size of compensating ring 3" x 2 1/2" No. and Description of Furnaces in each boiler 2: Plain Material steel Outside diameter 42" Length of plain part top 42" Thickness of plates crown 2 1/2" bottom 3 1/2"

Description of longitudinal joint weld. No. of strengthening rings none Working pressure of furnace by the rules 140 lbs. Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 3/8" Top 5/8" Bottom 3/8" Pitch of stays to ditto: Sides 9 1/2" x 9 1/2" Back 9" x 9"

Top 8 1/2" x 9" If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 135 lbs Material of stays steel Diameter at smallest part 1 1/4" Area supported by each stay 90" Working pressure by rules 130 lbs End plates in steam space: Material steel Thickness 3/8"

Pitch of stays 16 1/2" x 16 1/2" How are stays secured by nuts Working pressure by rules 134 lbs Material of stays steel Diameter at smallest part 1 1/4" Area supported by each stay 242" Working pressure by rules 156 lbs Material of Front plates at bottom steel Thickness 3/2" Material of

Lower back plate steel Thickness 2 1/2" Greatest pitch of stays 13" Working pressure of plate by rules 169 lbs Diameter of tubes 3 1/2" Pitch of tubes 4 1/4" x 4 1/4" Material of tube plates steel Thickness: Front 2 1/2" Back 2 1/4" Mean pitch of stays 11 1/2" Pitch across wide

water spaces 14" Working pressures by rules 130 lbs 155 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 30" Distance apart 8 1/2" Number and pitch of Stays in each 2: 9"

Working pressure by rules 184 lbs Superheater or Steam chest: none 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. Cameron Manufacturer.

Dates of Survey while building: During progress of work in shops - - - 1916 Feb 24, Apr 10, 19, May 11, 10, 29, Jun 9, 21, Jul 4, 11, 18, 25, Aug 1, 8, 15, 22, 29, 31, 5, 12, 19, 26, 30, 31, 1917 Jan 4, 11, 18, 22, 28, 31, 5, 12, 19, 26, 30, 31, 1917

Is the approved plan of boiler forwarded herewith Yes.

Total No. of visits 20

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

This Boiler was built under special survey and the materials and workmanship are good. On completion it was tested as required by the Rules and found tight and sound. The Boilers fitted up on board, with the necessary mountings, tested under steam found good.

Survey Fee ... £ 3 : 19 : : When applied for, 1917

Travelling Expenses (if any) £ : : : When received, 26.4. 1917

W. R. Austin, & L. Shalloons  
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI. 17. MAY. 1918

Assigned See Note for rpt attached

