

REPORT ON BOILERS.

(69865)
No. 69639

Received at London Office

2/2/17

MAR 1917

Date of writing Report 17th Feb 1917 When handed in at Local Office 20th Feb 1917 Port of NEWCASTLE ON TYNE

Survey held at Newcastle on Tyne Date, First Survey 10th July 1916 Last Survey 12th May 1917

Reg. Book. on the S.S. HELIUM (Mess Cochrane & Sons k^o 730 Vessel.) Tons } Gross
Net

Master Built at Selby By whom built Cochrane & Sons When built 1914

Engines made at Korth Shields By whom made Shields Eng. Iron & Dock Coy When made 1914

Boilers made at Helium-on-Tyne By whom made Palmer's Eng. & S. Coy When made 1914

Registered Horse Power Owners United Alkali Co. Ltd Port belonging to Liverpool

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

Letter for record S. Total Heating Surface of Boilers 1175 sq. ft. Is forced draft fitted No. No. and Description of Boilers One: Cylindrical Multi Single Working Pressure 180 lbs Tested by hydraulic pressure to 260 lbs Date of test 16/2/17

No. of Certificate 8926 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' 5" Length 10' 0"

Material of shell plates Steel Thickness 1" Range of tensile strength 29 to 33 tons Are the shell plates welded or flanged No.

Description of riveting: cir. seams Lap Double long. seams RTS Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 7 1/16 Working pressure of shell by rivets 88.6 plate 85.4

Gap of plates or width of butt straps 15 1/8" Per centages of strength of longitudinal joint ✓ Working pressure of shell by plates 184 lbs Size of manhole in shell 16" x 12" Size of compensating ring Y 1/2" x 1" No. and Description of Furnaces in each boiler 2: Monium Material Steel Outside diameter 42 1/8" Length of plain part 6' 3" Thickness of plates 9" crown 7 1/2" bottom 7 1/2"

Description of longitudinal joint Weld No. of strengthening rings None Working pressure of furnace by the rules 205 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1" Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" Back 8 1/2" x 8 1/2" Top 8 1/2" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 186 lbs Material of stays Steel Area Diameter at smallest part 2.03 sq. in. Area supported by each stay 42 1/2 sq. in. Working pressure by rules 253 lbs End plates in steam space: Material Steel Thickness 1 3/32" Pitch of stays 14 1/2" How are stays secured Double nuts Working pressure by rules 155 lbs Material of stays Steel Area Diameter at smallest part 6.1 sq. in. Area supported by each stay 306 sq. in. Working pressure by rules 206 lbs Material of Front plates at bottom Steel Thickness 1" Material of lower back plate Steel Thickness 3/8" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 189 lbs Diameter of tubes 5 1/2" Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates Steel Thickness: Front 1" Back 3/4" Mean pitch of stays 9 1/2" Pitch across wide water spaces 15" Working pressures by rules 182 lbs 220 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 28 1/2" Distance apart 8 1/2" Number and pitch of Stays in each 2: 8 1/2" Working pressure by rules 235 lbs 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

Are they 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
June 10-14, 25-31 Aug 9-14 Sep 11-25, 29-Oct 12-15, 23-25
Nov. 1-21, 24-25 Dec 4-13, 27 (1917) Jan 4-15, 22 Feb 8-13, 16.

Is the approved plan of boiler forwarded herewith See herewith Report 69639 on k^o 730 Boiler.

Total No. of visits 25

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

This main Boiler was built under special survey and the materials and workmanship are good on completion it was tested as required by the Rules & found tight and sound.

Survey Fee ... £ 3 : 18 : } When applied for, 20.2.1917
 Travelling Expenses (if any) £ : : } When received, 26.4.1917

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

Committee's Minute assigned See Sub. A. Exp. attached
No 29868

