

REPORT ON BOILERS.

No. 67297

WED. MAR. 13. 1912

Received at London Office

Date of writing Report 11th Mar. 1912 When handed in at Local Office 11 MAR 1912 Port of LIVERPOOL

No. in Survey held at Liverpool Date, First Survey 6 Sept 11 Last Survey 5th Mar. 1912

Reg. Book. 367 on the Auxiliary Boiler of the STEEL S.S. "AKAIBO" (Number of Visits 11) Gross 3814 Tons Net 2423

Master _____ Built at Middlesbrough By whom built Wm. Dixon & Co. Ltd. When built 1902-4

Engines made at Liverpool By whom made Richardsons, Walsgate & Co. Ltd. when made 1902

AUXILIARY Boilers made at Liverpool By whom made D. Rollo & Sons when made 1911

Registered Horse Power 436 Owners Edw. Dimpster & Co. Ltd. Mgrs. Port belonging to Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel The Steel Company of Scotland Ltd.

(Letter for record S.) Total Heating Surface of Boilers 1610 sq ft Is forced draft fitted yes No. and Description of Boilers One cylindrical multitubular Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb. Date of test 8-12-11

No. of Certificate 1948 Can each boiler be worked separately yes Area of fire grate in each boiler 33.66 sq ft No. and Description of safety valves to each boiler two, spring loaded Area of each valve 5.94 sq in Pressure to which they are adjusted 180 lb.

Are they fitted with easing gear yes 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 20" Mean dia. of boilers 12'-0" Length 11'-11"

Material of shell plates Steel Thickness 1 3/32" Range of tensile strength 28-32 Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams D.R., L. long. seams T.R., D.B.S. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8 1/16"

rip of plates or width of butt straps 16 3/4" Per centages of strength of longitudinal joint rivets 83.63 Working pressure of shell by rules 198.5 Size of manhole in shell 16" x 12" Size of compensating ring 8 x 1 3/32" No. and Description of Furnaces in each boiler Two Morrison type Material Steel

Material Steel Outside diameter 3'-8 1/4" Length of plain part 37'-9" Thickness of plates 17/32"

Description of longitudinal joint welded No. of strengthening rings ✓ Working pressure of furnace by the rules 184.9 Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 19/32" Top 9/16" Bottom 7/8" Pitch of stays to ditto: Sides 8 x 7 1/2" Back 8 3/8 x 7 1/2"

Top 7 1/2 x 7" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181.5 Material of stays Steel AREA Diameter at smallest part 1.45 sq in Area supported by each stay 62.8 sq in Working pressure by rules 184 End plates in steam space: Material Steel Thickness 1 1/16"

Pitch of stays 18 1/2 x 14" How are stays secured D.No. Working pressure by rules 197.8 Material of stays Steel AREA Diameter at smallest part 6.1 sq in

Area supported by each stay 259 sq in Working pressure by rules 244 Material of Front plates at bottom Steel Thickness 1 3/16" Material of Lower back plate Steel Thickness 1 3/16" Greatest pitch of stays 13 1/2 x 8 3/8" Working pressure of plate by rules 180.7 Diameter of tubes 2 1/2"

Pitch of tubes 3 3/4 x 3 3/8" Material of tube plates Steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 8 3/16" Pitch across wide water spaces 13 1/2" Working pressures by rules 252 lb. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/4 x 13 1/8" Length as per rule 30 3/32" Distance apart 7" Number and pitch of Stays in each 3 @ 7 1/2"

Working pressure by rules 183 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 _____

The foregoing is a correct description,
Wm. Howie Manufacturer.

Dates of Survey 1911. Sept 6. Oct 4. 9. 13. 26. Nov 11 Is the approved plan of boiler forwarded herewith yes No. 66999
while building 14. 30. Dec 8. Mch 1. 5. Total No. of visits 11

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler has been built under special survey. The material and workmanship are of good description.

Survey Fee ... £ 4 : 4 : When applied for 11 MAR 1912
Travelling Expenses (if any) £ _____ : _____ : _____ When received Not Appl 19 12
James Carruthan
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute LIVERPOOL. 12 MAR 1912
Assigned See report attached 177
Lloyd's Register Foundation
W585-0034

If not, state whether, and when, one will be sent? In a Report also sent on the Hull of the Ship?