Rpt. 5a.

REPORT ON BOILERS.

No. 25193

Received at London Office FRI. MAR. 29. 1912

Date of writing Report ____ 19__ When handed in at Local Office ____ 19__ Port of SUNDERLAND.

No. in Reg. Book. Survey held at SUNDERLAND. Date, First Survey 27 Jany 1911 Last Survey 12th March 1912 (Number of Visits see mchy & pt.)

Steel on the S.S. "Macedonia" Tons Gross 6333 Net 3540

Master D. Bogiazides Built at Sunderland By whom built Sir T. Laing & Sons Ld When built 1912

Engines made at Sunderland By whom made G. Clark Ld (940-1) when made 1912

Donkey Boilers made at Sunderland By whom made G. Clark Ld (940½) when made 1912

Registered Horse Power Owners National S. N. Co. of Greece Port belonging to Andros

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY OR~~ **DONKEY.**—Manufacturers of Steel Spencer & Sons Ld.

(Letter for record (S)) **Total Heating Surface of Boilers** 1181 ft. Is forced draft fitted no. **No. and Description of Boilers** One single ended **Working Pressure** 120 lbs. Tested by hydraulic pressure to 240 lbs. Date of test 4-8-11

No. of Certificate 2937. Can each boiler be worked separately ✓ **Area of fire grate in each boiler** 39¼ ft. No. and Description of safety valves to each boiler Two spring loaded. Area of each valve 7.068 □" Pressure to which they are adjusted 120 lbs.

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 18" ~~Mean~~ Inside dia. of boilers 11'-0" Length 11'-0"

Material of shell plates Steel Thickness 47/64" Range of tensile strength 29½-33 tns. Are the shell plates welded or flanged no.

Descrip. of riveting: cir. seams D.R. long. seams D.R.D.B.S. Diameter of rivet holes in long. seams 15/16" Pitch of rivets 3.671"

~~Lap of plates or~~ width of butt straps 9½" Per centages of strength of longitudinal joint rivets 75.5 plate 74.6. Working pressure of shell by rules 127 lbs. Size of manhole in shell 16" × 12" Size of compensating ring 7½" × ¾" **No. and Description of Furnaces in each boiler** Two plain Material Steel Outside diameter 3'-4½" Length of plain part top 84¼" bottom 81" Thickness of plates crown bottom 41/64"

Description of longitudinal joint Weld No. of strengthening rings One Working pressure of furnace by the rules 128 lbs. Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 13/16" Pitch of stays to ditto: Sides 10" × 8 11/16" Back 8¾" × 9¾" Top 10" × 8 11/16" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 124 lbs. Material of stays Steel ~~Diameter~~ Area at smallest part 1.45 □" Area supported by each stay 87 □" Working pressure by rules 132 lbs. End plates in steam space: Material Steel Thickness 1¼"

Pitch of stays 24" × 22½" How are stays secured D. Nuts Working pressure by rules 137 lbs. Material of stays Steel ~~Diameter~~ Area at smallest part 6.49 + 4.43

Area supported by each stay 434 □" + 287.5 □" Working pressure by rules 155 lbs + 163 lbs. Material of Front plates at bottom Steel Thickness 27/32" Material of Lower back plate Steel Thickness 47/64" Greatest pitch of stays 14½" × 9¾" Working pressure of plate by rules 124 lbs. Diameter of tubes 3¼"

Pitch of tubes 4½" × 4⅜" Material of tube plates Steel Thickness: Front 27/32" Back 11/16" Mean pitch of stays 11 1/16" Pitch across wide water spaces 14¼" Working pressures by rules 125 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 @ 6½" × ¾" Length as per rule 2'-5" Distance apart 10" Number and pitch of Stays in each 2 @ 8 11/16"

Working pressure by rules 120 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 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,

FOR GEORGE CLARK, LIMITED.

James C. Clark. Manufacturer.

Dates of Survey while building: During progress of work in shops - - / During erection on board vessel - - - see attached report

Is the approved plan of boiler forwarded herewith yes.

Total No. of visits ✓

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

This boiler has been built under special survey, the materials and workmanship are of good quality and the hydraulic test proved satisfactory. It has been securely fitted in board & its safety valves have been adjusted under steam to the above pressure. (also see machinery report).

Survey Fee ... ... £ 2 : 2 : 0 When applied for, 26. 3. 1912

Travelling Expenses (if any)) £ : : When received, 30. 3. 1912

William Butler.

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

Committee's Minute TUE. APR. 2 - 1912

Assigned

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W639-0190