Rpt. 5a.

REPORT ON BOILERS.

No. 40005.

Received at London Office MAY -6 1940

Date of writing Report ____ 19 ____ When handed in at Local Office ____ 19 ____ Port of NEW YORK

No. in Reg. Book. Survey held at ROCHESTER NY + NEW YORK Date, First Survey 12 Dec 1939 Last Survey 29 Feb 1940

(Number of Visits 3) Tons { Gross 2345·3 / Net 1880

on the T.S. M.V. PETROHEAT

Master ____ Built at ROCHESTER N.Y. By whom built DOLOMITE MARINE CORP^N Yard No. 3 When built 1940

Engines made at AUBURN N.Y. By whom made AMERICAN LOCOMOTIVE CO. Engine No. 2490/1 When made 1940

Boilers made at TITUSVILLE PA. By whom made TITUSVILLE IRON WORKS Boiler No. ____ When made 1940

Nominal Horse Power 245 Owners DOLOMITE 3 CORPORATION. Port belonging to NEW YORK

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel LUKENS STEEL CO. (Letter for Record S)

Total Heating Surface of Boilers 850 SQ FT. Is forced draught fitted NO Coal or Oil fired OIL

No. and Description of Boilers 1 single ended 'Scotch' type **Working Pressure** 184 lbs

Tested by hydraulic pressure to 276 lbs. Date of test 12 Dec 1940 No. of Certificate NONE ISSUED Can each boiler be worked separately ✓

Area of Firegrate in each Boiler OIL FIRED No. and Description of safety valves to each boiler 2 SPRING LOADED

Area of each set of valves per boiler { per Rule 7.5 / as fitted 14.14 } Pressure to which they are adjusted 184 LBS 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 NO WOODWORK Is oil fuel carried in the double bottom under boilers NO.

Smallest distance between shell of boiler and tank top plating OPEN FLOORS Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 8'-0" Length 9'-8" **Shell plates:** Material STEEL Tensile strength 60000 LBS

Thickness ·70" ✓ Are the shell plates welded or flanged NO. Description of riveting: circ. seams { end DOUBLE LAP / inter. ✓

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 15/16" / long. seams 1 1/16" } Pitch of rivets { 2·79 / 8"/14 }

Percentage of strength of circ. end seams { plate 66 / rivets 59 } Percentage of strength of circ. intermediate seam { plate ✓ / rivets ✓ }

Percentage of strength of longitudinal joint { plate 87 / rivets 110 / combined 94 } Working pressure of shell by Rules 184 lbs.

Thickness of butt straps { outer 11/16" / inner 11/16" } **No. and Description of Furnaces in each Boiler** 1 MORISON

Material STEEL Tensile strength 55000 LBS. Smallest outside diameter 3'-9 3/16"

Length of plain part { top 8" / bottom GOURLAY NECK } Thickness of plates { crown / bottom } 19/32 Description of longitudinal joint FORGE WELDED

Dimensions of stiffening rings on furnace or c.c. bottom NONE Working pressure of furnace by Rules 190 LBS

End plates in steam space: Material STEEL Tensile strength 55000 LBS Thickness 11/16" + 1/2" DOUBLER Pitch of stays 12 × 6

How are stays secured DOUBLE NUTS Working pressure by Rules 235 LBS

Tube plates: Material { front STEEL / back STEEL } Tensile strength { 55000 LBS / 55000 LBS } Thickness { 11/16 / 9/16 }

Mean pitch of stay tubes in nests 8" 8" Pitch across wide water spaces ✓ Working pressure { front 185 LBS / back 176· }

Girders to combustion chamber tops: Material STEEL Tensile strength 55000 LBS Depth and thickness of girder at centre 5 3/4" × 1 1/2" Length as per Rule 2'-0 1/2" Distance apart 6" No. and pitch of stays in each 3-5 1/2" Working pressure by Rules 215 LBS. **Combustion chamber plates:** Material STEEL

Tensile strength 55000 LBS. Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16"

Pitch of stays to ditto: Sides 5 1/2" × 6 1/16" Back 5·82" × 5·88" Top 5 1/2" × 6" Are stays fitted with nuts or riveted over TOP NUTS. OTHERS RIVETED OVER

Working pressure by Rules 210 LBS **Front plate at bottom:** Material STEEL Tensile strength 55000 LBS

Thickness 11/16" **Lower back plate:** Material STEEL Tensile strength 55000 LBS Thickness 11/16"

Pitch of stays at wide water space NONE Are stays fitted with nuts or riveted over RIVETED OVER

Working Pressure 185 LBS **Main stays:** Material STEEL Tensile strength 55000 LBS

Diameter { At body of stay, or Over threads } 2" / 2 5/8 No. of threads per inch 4 Area supported by each stay 72 SQ INS

Working pressure by Rules 400 LBS **Screw stays:** Material STEEL Tensile strength 55000 LBS

Diameter { At turned off part, or Over threads } ✓ / 1 1/8" No. of threads per inch 12 Area supported by each stay 33 SQ INS

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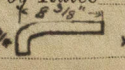
Working pressure by Rules 184 LBS *Are the stays drilled at the outer ends* YES *Margin stays: Diameter* {*At turned off part, or Over threads* 1⅛

No. of threads per inch 12 *Area supported by each stay* 33 LBS *Working pressure by Rules* 184 LBS

Tubes: *Material* STEEL *External diameter* {*Plain* 3" *Stay* 3" *Thickness* {.134 ¼" *No. of threads per inch* 12

Pitch of tubes 4×4 *Working pressure by Rules* 184 lbs submitted for approval **Manhole compensation:** *Size of opening in shell plate* 15"×19" *Section of compensating ring*  × 13/16 THICK *No. of rivets and diameter of rivet holes* 52 - 1⅛"

Outer row rivet pitch at ends 3" *Depth of flange if manhole flanged* 3¾" **Steam Dome:** *Material* NONE

Tensile strength ✓ *Thickness of shell* ✓ *Description of longitudinal joint* ✓

Diameter of rivet holes ✓ *Pitch of rivets* ✓ *Percentage of strength of joint* {*Plate* ✓ *Rivets* ✓

Internal diameter ✓ *Working pressure by Rules* ✓ *Thickness of crown* ✓ *No. and diameter of stays* ✓ *Inner radius of crown* ✓ *Working pressure by Rules* ✓

How connected to shell ✓ *Size of doubling plate under dome* ✓ *Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell* ✓.

Type of Superheater NONE *Manufacturers of* {*Tubes* ✓ *Steel forgings* ✓ *Steel castings* ✓

Number of elements ✓ *Material of tubes* ✓ *Internal diameter and thickness of tubes* ✓

Material of headers ✓ *Tensile strength* ✓ *Thickness* ✓ *Can the superheater be shut off and the boiler be worked separately* ✓ *Is a safety valve fitted to every part of the superheater which can be shut off from the boiler* ✓

Area of each safety valve ✓ *Are the safety valves fitted with easing gear* ✓ *Working pressure as per Rules* ✓ *Pressure to which the safety valves are adjusted* ✓ *Hydraulic test pressure: tubes* ✓ *forgings and castings* ✓ *and after assembly in place* ✓ *Are drain cocks or valves fitted to free the superheater from water where necessary* ✓.

Have all the requirements of Sections 14 *to* 22 *inclusive for boilers been complied with* YES.

The foregoing is a correct description,

M. W. Brooks *Manufacturer.*

Dates of Survey while building {*During progress of work in shops* ✓ *During erection on board vessel* 1940 JAN 12, 13, F 24, 29

Are the approved plans of boiler and superheater forwarded herewith YES (If not state date of approval.)

Total No. of visits 4

Is this Boiler a duplicate of a previous case YES. *If so, state Vessel's name and Report No.* DOLOMITE 4 NYK RPT 38975

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

This boiler was not built under Speaial Survy & was completed when first seen. It was built under survy of U.S. Govt Department of Commerce & complies with their Rules. It has been examined & it is found that some of the thicknesses are slightly below thos of this Society but they are safe for the pressure.

The boiler was tested in presence of the undersigned to 276 lbs by hydraulic pressure & it was found tight & sound in every respect & shewing no sign of weakness at that pressure. The safety valves have been adjusted under steam to 184 lbs & the boiler examined & found good while under steam.

This Donkey Boiler is now in good & safe working condition, & eligible, in my opinion, to receive the notation D.B. 184 lbs.

Survey Fee ... ... £ $100.00 : ✓ When applied for, APR 8 - 1940 19

Travelling Expenses (if any) £ : : When received, APR 16 1940 19

John S. Heck

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK APR 17 1940

Assigned D.B. 184 lbs