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## REPORT ON BOILERS.

No. 107622

Received at London Office

NEWCASTLE 30 AUG 1950

Date of writing Report 29.8.50 When handed in at Local Office 29.8.50 Port of

No. in Reg. Book. Survey held at WALLSEND-ON-TYNE Date, First Survey 17/3/50 Last Survey 29.8.50

on the M.V. "ATHEL SULTAN" (Number of Visits 10) Gross Tons Net Tons

Master Built at MIDLESBROUGH By whom built SMITHS DOCK CO. LTD. Yard No. 120 When built

Engines made at By whom made Engine No. When made

Boilers made at WALLSEND-ON-TYNE By whom made NORTH EASTERN MARINE ENG. CO. (1938) LTD. Boiler No. 3200 When made 1950

Nominal Horse Power 4396/12 367 Owners Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES LTD. (Letter for Record S)

Total Heating Surface of Boilers 2198 x 2 = 4396 sq ft Is forced draught fitted YES Coal or Oil fired OIL

No. and Description of Boilers Two SINGLE ENDED Working Pressure 180 LBS/PSI

Tested by hydraulic pressure to 320 LBS/PSI Date of test 26.7.50 No. of Certificate 1405 Can each boiler be worked separately YES

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler ONE 2 1/4" STEEL DOUBLE IMPROVED HIGH LIFT

Area of each set of valves per boiler (per Rule 7.05 D) (as fitted 7.94 D) Pressure to which they are adjusted 180 LBS/PSI Are they fitted with easing gear YES

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler NO MAIN BOILERS

Smallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

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

Largest internal dia. of boilers 13'-9 3/4" Length 11'-6" OVERALL Shell plates: Material MILD STEEL Tensile strength 29/33 TONS/PSI

Thickness 1 1/8" Are the shell plates welded or flanged NO Description of riveting: circ. seams end OR

long. seams TR DOUBLE BUTT STRAPS Diameter of rivet holes in (circ. seams 1 3/16" (long. seams 1 3/16" Pitch of rivets 3 1/2" 8 3/8"

Percentage of strength of circ. end seams (plate 66.17% rivets 44.77% Percentage of strength of circ. intermediate seam (plate 85.87% rivets 87.37%

Percentage of strength of longitudinal joint (plate 87.37% rivets 89.7% Working pressure of shell by Rules 185.6 LBS/PSI

Thickness of butt straps (outer 7/8" inner 1" No. and Description of Furnaces in each Boiler THREE CORRUGATED DEIGHTON TYPE

Material MILD STEEL Tensile strength 26/30 TONS/PSI Smallest outside diameter 3'-2 1/4"

Length of plain part (top bottom Thickness of plates (crown 1/2" bottom 1/2" Description of longitudinal joint WELD

Dimensions of stiffening rings on furnace or c.c. bottom NONE Working pressure of furnace by Rules 188 LBS/PSI

End plates in steam space: Material MILD STEEL Tensile strength 26/30 TONS/PSI Thickness 1 3/8" Pitch of stays 17 3/4" x 24 1/2"

How are stays secured NUTS IN &amp; OUT Working pressure by Rules 193.7 LBS/PSI

Tube plates: Material (front back MILD STEEL Tensile strength 26/30 TONS/PSI Thickness 23/32

Mean pitch of stay tubes in nests 10" Pitch across wide water spaces 14" Working pressure (front 217 LBS/PSI back 234.5 LBS/PSI

Girders to combustion chamber tops: Material MILD STEEL Tensile strength 29/33 TONS/PSI Depth and thickness of girder

at centre 7" x 3/4" Length as per Rule 2'-7" Distance apart 6" No. and pitch of stays

in each EW WHOLE LENGTH Working pressure by Rules 180 LBS/PSI Combustion chamber plates: Material MILD STEEL

Tensile strength 26/30 TONS/PSI Thickness: Sides 23/32 Back 11/16" Top 23/32 Bottom 23/32

Pitch of stays to ditto: Sides 8 7/8" x 11" Back 9 5/8" x 8 3/4" Top GILDERS EW Are stays fitted with nuts or riveted over EW TO PLATES

Working pressure by Rules 181.68 LBS/PSI Front plate at bottom: Material MILD STEEL Tensile strength 26/30 TONS/PSI

Thickness 29/32 Lower back plate: Material MILD STEEL Tensile strength 26/30 TONS/PSI Thickness 7/8"

Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over NO EW THROUGH PLATES

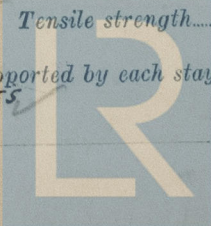
Working pressure 217 LBS/PSI Main stays: Material MILD STEEL Tensile strength 28/32 TONS/PSI

Diameter (At body of stay 3" or Over threads 3 1/4" No. of threads per inch 6 Area supported by each stay 17 3/4" x 24 1/2"

Working pressure by Rules 180.2 LBS/PSI Screw stays: Material MILD STEEL Tensile strength 26/30 TONS/PSI

Diameter (At turned off part 1 1/2" or Over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 1 1/2" (8 3/4" x 9 5/8")

1 3/4" (8 7/8" x 11") 134 STAYS EW TO CC PLATES &amp; SCREWED THROUGH SHELL

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Working pressure by Rules. 185 lbs/p Are the stays drilled at the outer ends No Margin stays: Diameter At turned off part, 3/4" 1 7/8"  
No. of threads per inch EW to RATES Area supported by each stay 9 5/8" x 11 3/8" Working pressure by Rules. 199 lbs/p  
Tubes: Material M10 STEEL External diameter 2 3/4" Thickness 5/16" No. of threads per inch 9  
Pitch of tubes 4" x 4" Working pressure by Rules. 215 lbs/p Manhole compensation: Size of opening in  
shell plate. ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓  
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged ✓ 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 ✓  
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 ✓  
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 NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.  
The foregoing is a correct description,

Harry Hunt MANAGER

Dates of Survey while building { During progress of work in shops - - - 11.05.0, MAR. 17, 18, APR. 5, JUNE 1, 4, 21, 23, JULY 4, 15, AUG. 24 } Are the approved plans of boiler and superheater forwarded herewith YES  
(If not state date of approval.)  
During erection on board vessel - - - } Total No. of visits 10

Is this Boiler a duplicate of a previous case YES If so, state Vessel's name and Report No. CONTRACT N° 3195 NEWCASTLE RPT N° 1073/16

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers have been constructed

under Special Survey in accordance with the approved plan.

The materials & workmanship are good.

The boilers will be despatched to Middlesbrough to be fitted on board.

These boilers have been securely fitted on board, tried under working conditions  
and found satisfactory. On completion the safety valves were adjusted under steam  
to 180 lb. per sq. inch.

J. C. Smith

Survey Fee 367 MW £ 61 : 14 : 0

When applied for 29 AUG 1950

Travelling Expenses (if any) £ : :

When received 19

J. A. Crude

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 13 APR 1951

Assigned

Sen F. E. mch. rpt.



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