

## REPORT ON BOILERS.

No. 30502

Date of writing Report

192

When handed in at Local Office

19 NOV 1930

Received at London Office

20 NOV 1930

Port of *Sunderland.*

No. in Survey held at

*Sunderland.*

Date, First Survey

*26 May*

Last Survey

*14 Nov 1930*

on the

*M.V. "CHEYENNE"*

(Number of Visits

*21*)Gross  
Tons

Net

Master

Built at

*Newcastle*

By whom built

*Palmer & Sons*

Yard No

*1001* When built*1930.*

Engines made at

*Sunderland*

By whom made

*William Duguid & Co. Ltd.*

Engine No.

*180* When made*1930.*

Boilers made at

*Sunderland*

By whom made

*George Black & Co. Ltd.*

Boiler No.

*11952* When made*1930.*

Nominal Horse Power

Owners

*Anglo American Oil Co*

Part belonging to

*Newcastle.*

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

*Verminjke Stahlwerk A.G. Stahl, Wetzlar, Thuringia, Prussia*

(Letter for Record

*S*)

Total Heating Surface of Boilers

*1819 sq ft*

Is forced draught fitted

*Yes*

Coal or Oil fired

*oil.*

No. and Description of Boilers

*One cyl. Mult. S.E.*

Working Pressure

*150 lbs*

Tested by hydraulic pressure to

*275 lbs*

Date of test

*9/9/30*

No. of Certificate

*4118*

Can each boiler be worked separately

*Yes*

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

*Two spring loaded 2 1/2" dia HIGH LIFT.*

Area of each set of valves per boiler

per Rule

*8.26 sq ft*

as fitted

Pressure to which they are adjusted

*155 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

Is oil fuel carried in the double bottom under boilers

*FITTED TWEEN DECKS*

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

*Yes*

Largest internal dia. of boilers

*12'-10 1/2"*

Length

*11'-6 7/8"*

Shell plates: Material

*Steel*

Tensile strength

*29 to 33 tons*

Thickness

*7/8"*

Are the shell plates welded or flanged

*No*

Description of riveting: circ. seams

*end**DR*

Long. seams

*TR DBS*

Diameter of rivet holes in

circ. seams

*15/16"*

long. seams

*15/16"*

Pitch of rivets

*2 7/8"**6 3/8"*

Percentage of strength of circ. end seams

plate

*67.2*

rivets

*43.5*

Percentage of strength of circ. intermediate seam

plate

*85.29*

rivets

*92*

Percentage of strength of longitudinal joint

plate

*85.29*

rivets

*92*

combined

*91*

Working pressure of shell by Rules

*151 lbs*

Thickness of butt straps

inter

*4 1/8"*

inner

*1 1/8"*

No. and Description of Furnaces in each Boiler

*Three Furnaces in.*

Material

*Steel*

Tensile strength

*26 to 30 tons*

Smallest outside diameter

*38 1/2"*

Length of plain part

top

*1'-0"*

bottom

*1'-0"*

Thickness of plates

crown

*1/2"*

bottom

*1/2"*

Description of longitudinal joint

*Welded.*

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

*188 lbs*

End plates in steam space: Material

*Steel*

Tensile strength

*26 to 30 tons*

Thickness

*1 1/8"*

Pitch of stays

*17 x 19*

How are stays secured

*DN & W.*

Working pressure by Rules

*161 lbs*

Tube plates: Material

front

*Steel*

back

*Steel*

Tensile strength

*26 to 30 tons*

Thickness

*1 1/8"**3 3/4"*

Mean pitch of stay tubes in nests

*10 1/2"*

Pitch across wide water spaces

*13 1/2" x 7 1/4"*

Working pressure

*168 lbs*

Girders to combustion chamber tops: Material

*Steel*

Tensile strength

*29 to 33 tons*

Depth and thickness of girder

at centre

*7 1/8" x 1 1/2"*

Length as per Rule

*31 9/16"*

Distance apart

*9 1/2"*

No. and pitch of stays

at each

*3 2 7"*

Working pressure by Rules

*153 lbs*

Combustion chamber plates: Material

*Steel*

Tensile strength

*26 to 30 tons*

Thickness: Sides

*9/16"*

Back

*4/16"*

Top

*9/16"*

Bottom

*4/16"*

Pitch of stays to ditto: Sides

*7 1/8" x 8 1/8"*

Back

*7 3/4" x 7 1/4"*

Top

*7" x 9 1/2"*

Are stays fitted with nuts or riveted over

*Nuts & Riv.*

Working pressure by Rules

*156 lbs*

Front plate at bottom: Material

*Steel*

Tensile strength

*26 to 30 tons*

Thickness

*7/8"*

Lower back plate: Material

*Steel*

Tensile strength

*26 to 30 tons*

Thickness

*1 1/8"*

Pitch of stays at wide water space

*13 1/8" x 7 1/4"*

Are stays fitted with nuts or riveted over

*Nuts & Riv*

Working Pressure

*210 lbs*

Main stays: Material

*Steel*

Tensile strength

*28 to 32 tons*

Diameter

At body of stay,

*2 1/2"*

Over threads

*2 7/8"*

No. of threads per inch

*6*

Area supported by each stay

*19 x 19"*

Working pressure by Rules

*165 lbs*

Screw stays: Material

*Steel*

Tensile strength

*26 to 30 tons*

Diameter

At turned off part,

*1 1/2"*

Over threads

*1 1/2"*

No. of threads per inch

*9*

Area supported by each stay

*8 x 7 1/4"*



Working pressure by Rules *165 lbs* Are the stays drilled at the outer ends *No* Margin stays: Diameter *1 1/2"* At turned off part, or Over threads *1 1/2"*

No. of threads per inch *9* Area supported by each stay *10 3/4" x 7 1/2"* Working pressure by Rules *183 lbs*

Tubes: Material *IRON* External diameter *2 1/2"* Plain *2 1/2"* Thickness *8 SWG* No. of threads per inch *9*

Pitch of tubes *3 5/8" x 3 3/4"* Working pressure by Rules *300 lbs* Manhole compensation: Size of opening *10 1/2"*

shell plate *20" x 16"* Section of compensating ring *10 1/8" x 7 1/8"* No. of rivets and diameter of rivet holes *40 x 1 1/8"*

Outer row rivet pitch at ends *7 1/4"* Depth of flange if manhole flanged *3 1/2"* Steam Dome: Material *-*

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 *-* 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 *-* 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,  
 FOR GEORGE CLARK LIMITED *W. G. G. Munn*

Dates of Survey: During progress of work in shops - *29. May, 30. June, 2. 5. 11. 16. July, 10* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

During erection on board vessel - *14. 17. 22. 30. Aug. 7. 11. 21. 27. Sep. 1. 3.* Total No. of visits *21*

*5. 8. 9. 10 Nov. 14*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under special survey & the materials & workmanship are good. On completion the boiler was satisfactorily fitted in the vessel & the safety valves adjusted under steam. For notation see machinery report.*

Survey Fee ... *£30-6-0* When applied for, *192*

Travelling Expenses (if any) *£* When received, *20.12.192*

*W. G. G. Munn*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 2 DEC 1930*

Assigned *See Nov. 76. 86471*