

REPORT ON BOILERS.

Received at London Office **2 - NOV 1954**

Writing Report **18 - 10 - 1954** When handed in at Local Office **19** Port of **CADIZ**

Survey held at **CADIZ** Date, First Survey **22 - 8 - 1953** Last Survey **30 - 9 - 54** 19

on the **S.S. "ALMIRANTE LOBO"** (Number of Visits **13**) Tons { Gross **4183.34**
Net **2246.71**

at **CADIZ** By whom built **Astilleros de Cadiz, S.A.** Yard No. **40** When built **1954**

Engines made at **Cadiz** By whom made **Astilleros de Cadiz, S.A.** Engine No. **10** When made **1954**

Boilers made at **Cadiz** By whom made **Astilleros de Cadiz, S.A.** Boiler No. **7** When made **1954**

Indicated Horse Power **2493** Owners **Marina de Guerra Española** Port belonging to **--**

TUBULAR BOILERS - MAIN, - AUXILIARY, - OR DONKEY.

Manufacturers of Steel **Altos Hornos de Vizcaya, S.A.** (Letter for Record **S**)

Heating Surface of Boilers **138.5 M²** Of Superheaters **--**

Surface for Register Book **138.5 M²** Is forced draught fitted **Yes** ✓ Coal or Oil fired **Oil** ✓

Kind and Description of Boilers **1 Multitubular** ✓ Working Pressure **12.65 Kg/cm²** ✓
180 Lbs.

Tested by hydraulic pressure to **22.5 Kg/cm²** Date of test **19-1-54** No. of Certificate **115** Can each boiler be worked separately **-**

Number of Firegrate in each Boiler **-** No. and Description of safety valves to each boiler **1 - 3 1/2" Double Spring** ✓

Area of each set of valves per boiler { per Rule **App.**
as fitted **9.62 sq. inch.** Pressure to which they are adjusted **12.65 Kg/cm²** Are they fitted with easing gear **Yes** ✓

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler **No** ✓

Least distance between boilers or uptakes and bunkers or woodwork **Well clear** ✓ Is oil fuel carried in the double bottom under boilers **No**

Least distance between shell of boiler and tank top plating **18"** Is the bottom of the boiler insulated **No**

Least internal dia. of boilers **3696 mm.** ✓ Length **3122 mm.** ✓ Shell plates: Material **Steel** ✓ Tensile strength **44/50 Kgs.** ✓

Position welded, state name of welding Firm **-** Have all the requirements of the Rules for Class I vessels complied with **-** Thickness **27 mm.** ✓ Are the shell plates welded or flanged **No** ✓ Description of riveting: circ. seams { end **D.R.** ✓
inter **D.R.** ✓

Seams **T.R. D.B. Straps** ✓ Diameter of rivet holes in { circ. seams **32 mm.**
long. seams **32 mm.** Pitch of rivets { **85 mm.**
189 mm.

Percentage of strength of circ. end seams { plate **62**
rivets **57** Percentage of strength of circ. intermediate seam { plate **62**
rivets **57**

Percentage of strength of longitudinal joint { plate **83**
rivets **120**
combined **90.3**

Thickness of butt straps { outer **27 mm.** ✓
inner **27 mm.** ✓ No. and Description of Furnaces in each Boiler **2 - Morrison** ✓

Material **Steel** ✓ Tensile strength **41/47 Kgs./mm²** ✓ Smallest outside diameter **1026 mm.** ✓

Thickness of plain part { top **190 mm.**
bottom **190 mm.** Thickness of plates **13 mm.** ✓ Description of longitudinal joint **Welded** ✓

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

Stays in steam space: Material **Steel** ✓ Tensile strength **44/50 Kgs/mm²** ✓ Thickness **25 mm** ✓ Pitch of stays **420x390 mm.** ✓

Are stays secured **Loose washers with nuts inside and outside.** ✓

Stays in water space: Material { front **Steel** ✓
back **Steel** ✓ Tensile strength { **44/50 Kgs./mm²** ✓ Thickness { **27 mm.** ✓
22 mm. ✓

Pitch of stay tubes in nests **275 mm.** ✓ Pitch across wide water spaces **357 mm.**

Stays to combustion chamber tops: Material **Steel** ✓ Tensile strength **44/50 Kgs./mm²** ✓ Depth and thickness of girder

Centre **205 mm x 19 mm x 2** ✓ Length as per Rule **730 mm** ✓ Distance apart **225 mm** ✓ No. and pitch of stays

Each **2 @ 230 mm.** ✓ Combustion chamber plates: Material **Steel** ✓

Tensile strength **41/47 Kgs./mm²** ✓ Thickness: Sides **22 mm.** ✓ Back **17 mm.** ✓ Top **22 mm.** ✓ Bottom **22 mm.** ✓

Dimensions of stays to ditto: Sides **230 x 230 mm** Back **216x224.5 mm.** Top **225x230 mm** Are stays fitted with nuts or riveted over **Nuts** ✓

Bottom plate at bottom: Material **Steel** ✓ Tensile strength **44/50 Kgs./mm²**

Thickness **25 mm.** ✓ Lower back plate: Material **Steel** ✓ Tensile strength **44/50 Kgs./mm²** Thickness **25 mm.** ✓

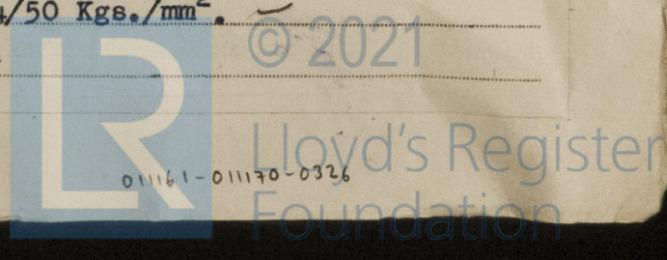
Pitch of stays at wide water space **357 mm.** ✓ Are stays fitted with nuts or riveted over **Nuts** ✓

Dimensions of stays: Material **Steel** ✓ Tensile strength **44/50 Kgs./mm²** ✓

Pitch of stays { At body of stay **70 mm.** ✓
or
Over threads **No. of threads per inch** **7** ✓

Dimensions of stays: Material **Steel** ✓ Tensile strength **44/50 Kgs./mm²** ✓

Pitch of stays { At turned off part **1 5/8"** ✓
or
Over threads **No. of threads per inch** **9** ✓



1/12/54

Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part} 1 3/4"
 No. of threads per inch 9 ✓
 Tubes: Material Steel ✓ External diameter ^{Plain} 83 mm. ✓ ^{Stay} 83 mm. ✓ Thickness ^{4 mm.} 8 mm. ✓ No. of threads per inch 9 ✓
 Pitch of tubes 108 x 113.5 mm. ✓ Manhole compensation: Size of open shell plate 410 x 310 mm. ✓ Section of compensating ring 27x810x347.5 mm. No. of rivets and diameter of rivet holes 32 @ 32 mm. ✓
 Outer row rivet pitch at ends 201 mm. ✓ Depth of flange if manhole flanged - Steam Dome: Material -
 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 _____ Thickness of crown _____ No. and diameter of stays _____ Inner radius of crown _____
 How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and of rivets in outer row in dome connection to shell _____
 Type of Superheater _____ 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 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 _____ Hydraulic test pressure _____
 Pressure to which the safety valves are adjusted _____ tubes _____ forgings and castings _____ and after assembly in place _____ Are drain 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 _____

The foregoing is a correct description,
 ASTILLEROS DE CADIZ, S. A.
 Director _____
 15-5-4

Dates of Survey while building ^{During progress of work in shops - -} 22-8-54 to 19-1-54 Are the approved plans of boiler and superheater forwarded herewith 15-5-4 (If not state date of approval.)
^{During erection on board vessel - - -} 29-1-54 to 30-9-54 Total No. of visits 18

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. S.S. "ANCUD" Cdz. Rpt. No. 2

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

This Boiler has been constructed in accordance with the Rules, approved plans and Secretary's Letters.
The materials and workmanship are good.
The Boiler has now been satisfactorily installed on board the vessel, tested under full working conditions and the safety valves adjusted to 12.65 Kgs./cm².

Survey Fee ... £ : : } When applied for,19.....
 Travelling Expenses (if any) £ : : } When received19.....

N. M. Russell
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute _____
 Assigned See Rpt. 4.

FRIDAY 3-DEC 1954



Rpt. 13.
 Date of writing B...
 No. in Sur...
 Reg. Book...
 Built at...
 Owners...
 Installation f...
 Is vessel equip...
 Plans, have the...
 Heating...
 Prime Movers...
 with a trip swi...
 Are the genera...
 Have machines...
 under 100 kw...
 room on m...
 is the ventilati...
 damage from v...
 main star...
 are they in acc...
 steam and oil...
 material is it a...
 per Rule...
 for each genera...
 current t...
 and the switch...
 Are compartme...
 ammeters...
 protection devi...
 lamps...
 Switches, Circu...
 make of fuses...
 overload do the...
 devices operate...
 if otherwise the...
 under maximum...
 Are all the cab...
 damage...
 type of cables...
 and laundries...
 supports...
 Are all lead sh...
 bulkheads prov...
 effectively bush...
 Have refrigerat...
 Are the motors...

AFTER...
 STEEL...
 Manufacturer's Name or Trade Mark...
 ALTOS HORNOS DE VIE...
 OPEN HEARTH...