

# REPORT ON MACHINERY.

No. 45047

Received at London Office - 7 OCT 1925

Writing Report 30-9-1925 When handed in at Local Office 5/10/25 Port of Glasgow

Survey held at Date, First Survey Last Survey 29-9-1925  
Book on the new steel S/S "ALOE"

Built at Port Glasgow By whom built R. & D. DUNCAN & CO. LTD S/S N° 365 When built 1925

Engines made at Glasgow By whom made W. Rowan & Co. Ltd (N° 810) when made 1925

Registered Horse Power Owners South African Ry. & Harb. & Marine Port belonging to Cape Town

Horse Power as per Section 28 477 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Engines, &c. - Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3

of Cylinders 27" 44" 73" Length of Stroke 48" Revs. per minute 66 Dia. of Screw shaft as per rule 14.708 Material of steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes No O.G. Is the after end of the liner made water tight

the propeller boss yes If the liner is in more than one length are the joints burned - If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two

are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'-0"

Dia. of Tunnel shaft as per rule 13.2 Dia. of Crank shaft journals as per rule 13.86 Dia. of Crank pin 14.5" Size of Crank webs 22.5" x 8.5" Dia. of thrust shaft under

of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes

of Bilge pumps 2 Diameter of ditto 4.5" Stroke 24" Can one be overhauled while the other is at work yes

of Donkey Engines 4 Sizes of Pumps 1 @ 9.5" x 7.25" 1 @ 9.5" x 12" 2 @ 8.5" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 1 @ 2.5" x 3" @ 2.5" In Holds, &c. N° 1 hold - 2 @ 3" N° 2 hold - 2 @ 3.5"

uptank - 2 @ 2.5" N° 3 hold - 3 @ 3.5" Tunnel well - 1 @ 3.5"

of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size yes 4.5"

all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible none

all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both

are they fixed sufficiently high on the ship's side to be seen, without lifting the stokehold plates yes Are the Discharge Pipes above or below the deep water line above

are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes

that pipes are carried through the bunkers forward hold suction How are they protected under timber boards

are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper deck

MANUFACTURERS, &c. - (Letter for record 5) Manufacturers of Steel The Port Talbot Steel Co & the South Wales Steel Co

Total Heating Surface of Boilers 67350 Is Forced Draft fitted yes No. and Description of Boilers Three single ended

Working Pressure 180 Tested by hydraulic pressure to 320 Date of test 20-8-25 No. of Certificate 16912

Can each boiler be worked separately yes Area of fire grate in each boiler 3900 No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 8.290 Pressure to which they are adjusted 185 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2'-3" Mean dia. of boilers 14'-6" Length 11'-6" Material of shell plates Steel

Thickness 1.5" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR.

of seams DBS. TR Diameter of rivet holes in long. seams 1.5" Pitch of rivets 8.25" Lap of plates or width of butt straps 18.5"

Percentage of strength of longitudinal joint flanged to 16" x 12" rivets 91 Working pressure of shell by rules 182 Size of manhole in shell 19.5" x 15.5"

Size of compensating ring 9" x 1.5" No. and Description of Furnaces in each boiler 3 Dighton brand Material Steel Outside diameter 43.25"

Length of plain part top Thickness of plates 35 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 180 Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 21/32 Top 23/32 Bottom 23/32

Pitch of stays to ditto: Sides 9.5" x 10.5" Back 9.5" x 8.5" Top 9.5" x 10.5" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181

Material of stays steel Area at smallest part 2.070 Area supported by each stay 99.50 Working pressure by rules 182 End plates in steam space:

Material steel Thickness 1.5" Pitch of stay 20" x 19.5" How are stays secured D.N. Working pressure by rules 180 Material of stays steel

Area at smallest part 5.940 Area supported by each stay 3500 Working pressure by rules 187 Material of Front plates at bottom steel

Thickness 3.5" Material of Lower back plate steel Thickness 3" Greatest pitch of stays 13.5" x 8.5" Working pressure of plate by rules 181

Diameter of tubes 2.5" Pitch of tubes 3.25" x 3.5" Material of tube plates Steel Thickness: Front 21/32 Back 23/32 Mean pitch of stays 10.64

Pitch across wide water spaces 13.5" x 7.5" Working pressures by rules 207 Girders to Chamber tops: Material steel Depth and

Thickness of girder at centre 2 @ 8" x 7.5" Length as per rule 33.8" Distance apart 9.5" Number and pitch of stays in each 2 @ 10.5"

Working pressure by rules 188 Steam dome: description of joint to shell none % of strength of joint

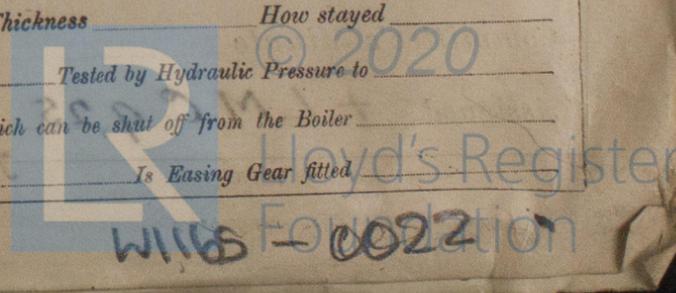
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type none Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted



IS A DONKEY BOILER FITTED? no ✓ If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied: - As per Rules and in addition - one eccentric strap, one tailshaft and two propeller blades.

The foregoing is a correct description,

For David Rowan & Co Ltd  
Archd. H. Grierson Manufacturer.

Dates of Survey while building  
During progress of work in shops - 1924 Aug 22-27, Sept 5-12, 23, Oct 7-9, 21, Nov 13-24, 26, Dec 2-5-12.  
During erection on board vessel - 1925 July 12-13, July 23-9, Mar 3-24, Apr 8-17-24, May 1-22, June 2-8-16-23, July 16-30-31.  
Total No. of visits 58. Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts - Cylinders 26-11-24 Slides 20-8-25 Covers 2-12-24 Pistons 17-8-25 Rods 17-8-25  
Connecting rods 31-7-25 Crank shaft 13-8-25 Thrust shaft 19-8-25 Tunnel shafts 16-6-25 Screw shaft 21-8-25 Propeller 10-9-25  
Stern tube 31-7-25 Steam pipes tested 25-8-11-9-25 Engine and boiler seatings 8-9-25 Engines holding down bolts 18-9-25  
Completion of pumping arrangements 21-9-25 Boilers fixed 18-9-25 Engines tried under steam 29-9-25

Completion of fitting sea connections Grk Stern tube Grk Screw shaft and propeller Grk. Blades fitted 15-9-25

Main boiler safety valves adjusted 22-9-25 Thickness of adjusting washers Port bl. - P<sub>2</sub> 5 7/16" Vent bl. - P<sub>2</sub> 5 3/8" Std bl. - both 5 1/10"

Material of Crank shaft Steel Identification Mark on Do. LOYD'S N<sup>o</sup> 810 13-8-25 H.Y.B. Material of Thrust shaft Steel Identification Mark on Do. LOYD'S N<sup>o</sup> 680 L.C.D. 19-8-25

Material of Tunnel shafts Steel Identification Marks on Do. LOYD'S 810 L.C.D. 16-6-25 Material of Screw shafts Steel Identification Marks on Do. LOYD'S N<sup>o</sup> 246 L.C.D. 21-8-25

Material of Steam Pipes Lapwelder steel Test pressure 540 lbs Spards LOYD'S N<sup>o</sup> 464 L.C.D. 24-9-25

Is an installation fitted for burning oil fuel no ✓ Is the flash point of the oil to be used over 150°F. -

Have the requirements of Section 49 of the Rules been complied with -

Is this machinery duplicate of a previous case no ✓ If so, state name of vessel see "Benicia"

General Remarks (State quality of workmanship, opinions as to class, &c.)  
The materials and workmanship are good. The machinery has been constructed under Special Survey in accordance with the Rules, satisfactorily fitted in the vessel, tried under steam and found good. It is eligible in my opinion for Classification and the Record + LMC 9.25.

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.25. CL. FD.

CERTIFICATE WRITTEN

C. S. Davis 8/16/25

The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 5 : :  
Special ... £ 96 : 11 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 5/10/25  
When received, 10/10/25

C. S. Davis  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 6-11-1925

Assigned + LMC 9.25 FD.

