

# REPORT ON MACHINERY.

No. 18624

Received at London Office 3 DEC 1926

Date of writing Report 22. 11. 1926 When handed in at Local Office 22. 11. 1926 Port of Greenock

No. in Survey held at Port Glasgow Date, First Survey 28<sup>th</sup> July 1926 Last Survey 8<sup>th</sup> September 1926  
Reg. Book. on the SS "MATRA" (Number of Visits 3)

Master \_\_\_\_\_ Built at Port Glasgow By whom built W<sup>m</sup> Hamilton & Co Ltd When built 1926  
Engines made at Glasgow By whom made D. Rowan & Co Ltd when made 1926  
Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_  
Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_  
Shaft Horse Power at Full Power \_\_\_\_\_ Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_

## TURBINE ENGINES, &c.—Description of Engines

No. of Turbines \_\_\_\_\_  
Diameter of Rotor Shaft Journals, H.P. \_\_\_\_\_ L.P. \_\_\_\_\_ Diameter of Pinion Shaft \_\_\_\_\_  
Diameter of Journals \_\_\_\_\_ Distance between Centres of Bearings \_\_\_\_\_ Diameter of Pitch Circle \_\_\_\_\_  
Diameter of Wheel Shaft \_\_\_\_\_ Distance between Centres of Bearings \_\_\_\_\_ Diameter of Pitch Circle of Wheel \_\_\_\_\_  
Width of Face \_\_\_\_\_ Diameter of Thrust Shaft under Collars \_\_\_\_\_ Diameter of Tunnel Shaft \_\_\_\_\_ as per rule \_\_\_\_\_ as fitted \_\_\_\_\_  
No. of Screw Shafts \_\_\_\_\_ Diameter of same \_\_\_\_\_ as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Diameter of Propeller \_\_\_\_\_ Pitch of Propeller \_\_\_\_\_  
No. of Blades \_\_\_\_\_ State whether Moveable \_\_\_\_\_ Total Surface \_\_\_\_\_ Diameter of Rotor Drum, H.P. \_\_\_\_\_ L.P. \_\_\_\_\_ astern \_\_\_\_\_  
Thickness at Bottom of Groove, H.P. \_\_\_\_\_ L.P. \_\_\_\_\_ Astern \_\_\_\_\_ Revs. per Minute at Full Power, Turbine \_\_\_\_\_ Propeller \_\_\_\_\_

## ARTICULARS OF BLADING.

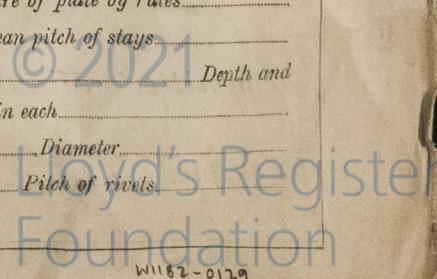
|               | H.P.              |                  |              | L.P.              |                  |              | ASTERN.           |                  |              |
|---------------|-------------------|------------------|--------------|-------------------|------------------|--------------|-------------------|------------------|--------------|
|               | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. |
| 1ST EXPANSION |                   |                  |              |                   |                  |              |                   |                  |              |
| 2ND           |                   |                  |              |                   |                  |              |                   |                  |              |
| 3RD           |                   |                  |              |                   |                  |              |                   |                  |              |
| 4TH           |                   |                  |              |                   |                  |              |                   |                  |              |
| 5TH           |                   |                  |              |                   |                  |              |                   |                  |              |
| 6TH           |                   |                  |              |                   |                  |              |                   |                  |              |
| 7TH           |                   |                  |              |                   |                  |              |                   |                  |              |
| 8TH           |                   |                  |              |                   |                  |              |                   |                  |              |

No. and size of Feed pumps \_\_\_\_\_  
No. and size of Bilge pumps \_\_\_\_\_  
No. and size of Bilge suction in Engine Room \_\_\_\_\_  
In Holds, &c. \_\_\_\_\_

No. of Bilge Injections \_\_\_\_\_ sizes \_\_\_\_\_ Connected to condenser, or to circulating pump \_\_\_\_\_ Is a separate Donkey Suction fitted in Engine Room & size \_\_\_\_\_  
Are all the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses in Engine room always accessible \_\_\_\_\_  
Are 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 \_\_\_\_\_ 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 \_\_\_\_\_ How are they protected \_\_\_\_\_  
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_  
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges \_\_\_\_\_  
Is the Screw Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

## BOILERS, &c.—(Letter for record \_\_\_\_\_) Manufacturers of Steel \_\_\_\_\_

Total Heating Surface of Boilers \_\_\_\_\_ Is Forced Draft fitted \_\_\_\_\_ No. and Description of Boilers \_\_\_\_\_  
Working Pressure \_\_\_\_\_ Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_  
Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of Safety Valves to \_\_\_\_\_  
Each boiler \_\_\_\_\_ Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_  
Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_  
Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_  
Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_  
Percentages of strength of longitudinal joint \_\_\_\_\_ rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_  
No. of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each Boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_  
Length of plain part \_\_\_\_\_ top \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_ bottom \_\_\_\_\_  
Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_  
Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_  
Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space \_\_\_\_\_  
Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_  
Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_  
Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_  
Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_  
Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_  
Thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_  
Working pressure by rules \_\_\_\_\_ Steam dome: description of joint to shell \_\_\_\_\_ % of strength of joint \_\_\_\_\_ Diameter \_\_\_\_\_  
Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
Working pressure of shell by rules \_\_\_\_\_ Crown plates: Thickness \_\_\_\_\_ How stayed \_\_\_\_\_



SUPERHEATER. Type \_\_\_\_\_ 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? \_\_\_\_\_ If so, is a report now forwarded? \_\_\_\_\_

SPARE GEAR. State the articles supplied:— \_\_\_\_\_

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- (1926) July 28. Aug 23. Sept 8. }  
{ During erection on board vessel --- }  
Total No. of visits 3

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

Is the approved plan of donkey boiler forwarded herewith \_\_\_\_\_

Dates of Examination of principal parts—Casings \_\_\_\_\_ Rotors \_\_\_\_\_ Blading \_\_\_\_\_ Gearing \_\_\_\_\_

Rotor shaft \_\_\_\_\_ Thrust shaft \_\_\_\_\_ Tunnel shafts \_\_\_\_\_ Screw shaft FITTED. 8/9/26 Propeller FITTED. 8/9/26

Stern tube FITTED. 23/8/26. Steam pipes tested \_\_\_\_\_ Engine and boiler seatings 28/7/26. Engines holding down bolts \_\_\_\_\_

Completion of pumping arrangements \_\_\_\_\_ Boilers fired \_\_\_\_\_ Engines tried under steam \_\_\_\_\_

Main boiler safety valves adjusted \_\_\_\_\_ Thickness of adjusting washers \_\_\_\_\_

Material and tensile strength of Rotor shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_

Material and tensile strength of Pinion shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_

Material of Wheel shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_ Material of Thrust shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_

Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_

Material of Steam Pipes \_\_\_\_\_ Test pressure \_\_\_\_\_

Is an installation fitted for burning oil fuel \_\_\_\_\_ 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 a duplicate of a previous case \_\_\_\_\_ If so, state name of vessel \_\_\_\_\_

General Remarks (State quality of workmanship, opinions as to class, &c.) The sea connections, Stern tube, screw shaft and Propeller have been satisfactorily fitted on board. The vessel has now left for Glasgow for installation of machinery. Glasgow Surveyors notified.

It is submitted that this vessel is eligible for THE RECORD. + LMC For indorsement. See 1st Entry report attached.

Certificate (if required) to be sent to \_\_\_\_\_ (The Surveyors are requested not to write on or below the space for Committee's Minute.)

|                                | When applied for, |
|--------------------------------|-------------------|
| The amount of Entry Fee ... £  | 19                |
| Special ... £                  |                   |
| Donkey Boiler Fee ... £        | When received,    |
| Travelling Expenses (if any) £ | 19                |

J. Davey  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 7-DEC 1926

Assigned See Gls. Mach. Report 46112.

