REPORT ON MACHINERY.

No. 27672.

FRI. 7 MAY 1909

Received at London Office

...ing Report .... 19 ...... When handed in at Local Office 22/4/1909 Port of Glasgow

Survey held at Glasgow Date, First Survey 10th Sept /08. Last Survey 29th April 1909.

(Number of Visits 57)

...on the S/S "Minderoo" Tons { Gross 2719.83. Net 1635.80.

... A. Mills Built at Glasgow By whom built C Connell & Co 325 When built 1909

...ade at Glasgow By whom made Dunsmuir & Jackson Ltd 339 when made 1909

...ade at ditto By whom made ditto 339 when made 1909

... Horse Power ...... Owners West Australian Stm Nav Co Lim Port belonging to Glasgow

...e Power as per Section 28 403 ✓ Is Refrigerating Machinery fitted for cargo purposes Yes ✓ Is Electric Light fitted Yes ✓

...ES, &c.—Description of Engines Triple Expansion ✓ No. of Cylinders 3 4 No. of Cranks 3 ✓

...linders 23½"-40"-65" ✓ Length of Stroke 45" ✓ Revs. per minute 96 Dia. of Screw shaft as per rule 13.26 as fitted 14¼" ✓ Material of screw shaft S ✓

...w shaft fitted with a continuous liner the whole length of the stern tube Yes ✓ Is the after end of the liner made water tight

...peller 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

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

...fitted, is the shaft lapped or protected between the liners — Length of stern bush 5'-6

...nel shaft as per rule 12.4 ✓ as fitted 13" Dia. of Crank shaft journals as per rule 13.06 ✓ as fitted 13⅝ Dia. of Crank pin 13⅝ ✓ Size of Crank webs 26×9" Dia. of thrust shaft under

...⅛" ✓ Dia. of screw 15'6 ✓ Pitch of Screw 15'-6" ✓ No. of Blades 4 ✓ State whether moveable Yes Total surface 74 ft

...d pumps 2 ✓ Diameter of ditto 4" Stroke 22½" Can one be overhauled while the other is at work Yes

...e pumps 2 ✓ Diameter of ditto 4" Stroke 22½" Can one be overhauled while the other is at work Yes

...key Engines 3 ✓ ✓ Sizes of Pumps Bal. 8"×10"×10". Gel 6"×6"×10" Woodeson Feed 8"×6"×21" No. and size of Suctions connected to both Bilge and Donkey pumps

... Room 4 at 3" • Sep 3½" In Holds, &c. 2 · 3" in each hold

...l Well 1 · 3½"

... Injections 1 sizes 7" ✓ Connected to condenser, or to circulating pump Con Is a separate Donkey Suction fitted in Engine room & size Yes 3½" ✓

...ilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible —

...nections with the sea direct on the skin of the ship Yes ✓ Are they Valves or Cocks Both ✓

...ed 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 below

...h 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 ✓

... are carried through the bunkers Hold Suction (Forward) ✓ How are they protected Boxed over ✓

...es, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes ✓

...ge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes ✓

...amination of completion of fitting of Sea Connections 4 - 3 09 of Stern Tube 4 - 3-09 Screw shaft and Propeller 4 - 3 09

...o Shaft Tunnel watertight Apparently Is it fitted with a watertight door Yes worked from Upper Engine Room Platform

...S, &c.—(Letter for record T.) Manufacturers of Steel Colville.

...ing Surface of Boilers 5796 ft ✓ Is Forced Draft fitted Yes ✓ No. and Description of Boilers 2 Single Ended ✓

... Pressure 200 ✓ Tested by hydraulic pressure to 400 ✓ Date of test 4. 2. 09 No. of Certificate 9749

...iler be worked separately Yes Area of fire grate in each boiler 78 ft No. and Description of Safety Valves to

... 2 - 3¾ Dual Spring Area of each valve 11.04 sq" Pressure to which they are adjusted 205 ✓ Are they fitted with easing gear Yes

...ance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 16'.4½" ✓ Length 11'-7 5/16 Material of shell plates S ✓

...1/16" ✓ Range of tensile strength 28½-32 ✓ Are the shell plates welded or flanged — Descrip. of riveting: cir. seams DR

...TR • DBS Diameter of rivet holes in long. seams 1 1/16" ✓ Pitch of rivets 10" ~~Lap of plates or~~ width of butt straps 24⅜ ✓

... of strength of longitudinal joint rivets 93.4% plate 83.12% Working pressure of shell by rules 213 Size of manhole in shell 16×12" ✓

...ensating ring McNeil ✓ No. and Description of Furnaces in each boiler 4 Deightons ✓ Material S ✓ Outside diameter 3'-10"

...ain part top / bottom ✓ Thickness of plates crown / bottom ⅝" Description of longitudinal joint weld No. of strengthening rings —

...essure of furnace by the rules 208 Combustion chamber plates: Material S Thickness: Sides 21/32" (Wing & Centre) 11/16 Back 21/32 ✓ Top 21/32" 11/16 ✓ Bottom 1" ✓

...s to ditto: Sides 8⅜×7¾" Back 8¾"×7 9/16 Top 7 7/16×8" (Centre 9½×7⅞) If stays are fitted with nuts or riveted heads Nuts ✓ Working pressure by rules 223

... stays ~~S~~ Iron ~~Diameter~~ area at smallest part 3.43 (2.3. 2.4. 3.14 sq") Area supported by each stay 63.5 sq" Working pressure by rules 210 End plates in steam space:

... S ✓ Thickness 15/32" Pitch of stays 16⅝×17½ How are stays secured D Nuts Working pressure by rules 207 Material of stays S ✓

... smallest part 7.5 sq" Area supported by each stay 290 sq" Working pressure by rules 220 Material of Front plates at bottom S ✓

...32 Material of Lower back plate S Thickness 1" Greatest pitch of stays 19" Working pressure of plate by rules 214

... tubes 2½" Pitch of tubes 3⅝×3⅞" Material of tube plates S Thickness: Front 1 1/32" Back 13/16" Mean pitch of stays abt 9½"

...s wide water spaces 13½" Working pressures by rules 219 Girders to Chamber tops: Material S ✓ Depth and

... girder at centre 10"×1" (2) Length as per rule 2'-8" Distance apart 8"9½" Number and pitch of stays in each 3 at 7⅞ ✓

...essure by rules 212 Superheater or Steam chest; how connected to boiler ...... Can the superheater be shut off and the boiler worked

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

... Pitch of rivets ...... Working pressure of shell by rules ...... Diameter of flue ...... Material of flue plates ...... Thickness

...ith rings ...... Distance between rings ...... Working pressure by rules ...... End plates: Thickness ...... How stayed

...ssure of end plates ...... Area of safety valves to superheater ...... Are they fitted with easing gear

W537-0287

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VERTICAL DONKEY BOILER— *Manufacturers of Steel* ____

No. ____ *Description* ____

Made at ____ *By whom made* ____ *When made* ____ *Where fixed* ____

Working pressure ____ *tested by hydraulic pressure to* ____ *Date of test* ____ *No. of Certificate* ____ *Fire grate area* ____ *Description of Safety Valves* ____ *No. of Safety Valves* ____ *Area of each* ____ *Pressure to which they are adjusted* ____ *Date of adjustment* ____

If fitted with easing gear ____ *If steam from main boilers can enter the donkey boiler* ____ *Dia. of donkey boiler* ____ *Length* ____

Material of shell plates ____ *Thickness* ____ *Range of tensile strength* ____ *Descrip. of riveting long. seams* ____

Dia. of rivet holes ____ *Whether punched or drilled* ____ *Pitch of rivets* ____ *Lap of plating* ____ *Per centage of strength of joint* *Rivets* ____ *Plates* ____

Working pressure of shell by rules ____ *Thickness of shell crown plates* ____ *Radius of do.* ____ *No. of stays to do.* ____ *Dia. of stays* ____

Diameter of furnace Top ____ *Bottom* ____ *Length of furnace* ____ *Thickness of furnace plates* ____ *Description of joint* ____

Working pressure of furnace by rules ____ *Thickness of furnace crown plates* ____ *Stayed by* ____

Diameter of uptake ____ *Thickness of uptake plates* ____ *Thickness of water tubes* ____ *Dates of survey* ____

SPARE GEAR. *State the articles supplied :—*

2 Connecting Rod bolts & Nuts for each end. 2 Main Bearing Bolts 1 Set of Coupling Bolts. 1 Set of Feed & Bilge pump Valves. A quantity of assorted bolts & Nuts & Iron of various sizes. 1 Spare Crank & Propeller Shaft 1 Set of Crank Pin bushes. 4 Propeller Blades. 1 Propeller Boss Nut &c. &c

The foregoing is a correct description,

for DUNSMUIR & JACKSON, Limited

James Fletcher *Manufacturer.*

Dates of Survey while building

During progress of work in shops — 1908. Feb 10. 14. 19. 22. 29. Oct 2. 10. 14. 22. 26. 28. 30. Nov 4. 9. 12. 17. 19. 25. 28. Dec 3. 7. 9. 14. 19. 23. 29. 1909. Jan 12. 14. 19. 26. 29 Feb 1. 3. 4. 9. 11. 13. 17. 27. Mar 4. 11. 13. 15. 17. 18. 23. 25. 30. April 2. 5. 7. 14. 16. 20. 23. 27. 29.

During erection on board vessel — ____

Total No. of visits 57.

Is the approved plan of main boiler forwarded herewith Yes

" " " *donkey* " " " None

Dates of Examination of principal parts *—Cylinders* 14-1-09 *Slides* 14-1-09 *Covers* 26-1-09 *Pistons* 14-1-09 *Rods* 22-2-09 *Connecting rods* 22-2-09 *Crank shaft* 23-12-08 *Thrust shaft* 19-1-09 *Tunnel shafts* 26-1-09 *Screw shaft* 11-2-09 *Propeller* 11-2-09 *Stern tube* 8-2-09 *Steam pipes tested* 13-2-09 *Engine and boiler seatings* 4-3-09 *Engines holding down bolts* 24-3-09 *Completion of pumping arrangements* 2-4-09 *Boilers fixed* 17-3-09 *Engines tried under steam* 29-4-09 *Main boiler safety valves adjusted* 20-4-09 *Thickness of adjusting washers* P Boiler P V 11/32 S V 11/32 S Boiler P V 11/32 S V 6 7/16

Material of Crank shaft S *Identification Mark on Do.* LLOYDS WGM *Material of Thrust shaft* S *Identification Mark on Do.* LLOYDS WGM

Material of Tunnel shafts S *Identification Marks on Do.* ditto *Material of Screw shafts* S *Identification Marks on Do.* ditto

Material of Steam Pipes Iron. *Test pressure* 600 lbs

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines & Boilers have been constructed & fitted on board under Special Survey in accordance with the Approved plan. They have been securely fitted on board & the workmanship & material are of good quality. The Machinery is in my opinion eligible for the record of ✠ LMC 4-09

Glasgow

Certificate (if required) to be sent to ____

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

It is submitted that this vessel is eligible for THE RECORD. ✠LMC 4.09

FD. Ref. Mchy. Elec. light.

A.G.D. 10/5/09.

H.S. 10.5.09

The amount of Entry Fee..	£ 3 : 0 :	When applied for,	3/5/ 1909
Special	£40 3 :		
Donkey Boiler Fee	£ : :	When received,	4/5/ 1909
Travelling Expenses (if any)	£ : :		

Committee's Minute GLASGOW 6 MAY. 1909

Assigned ✠LMC 4.09 FD.

MACHINERY CERTIFICATE WRITTEN.

Wm Gordon Mitchell

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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