

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office DEC 29 1937

Date of writing Report 1937 When handed in at Local Office 27. 12. 1937 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 28-10-36 Last Survey 22-12-1937

Reg. Book on the new steel SIRON "CHIEFTAIN" (Number of Visits 90)

Built at Port: Glasgow By whom built Lithergill & Co. Ltd Yard No. 903 Tons { Gross 4812 Net 2737 When built 1937

Engines made at Glasgow By whom made David Rowan & Co. Ltd Engine No. 1008 When made 1937

Boilers made at Renfrew By whom made Babcock & Wilcox Ltd Boiler No. 6/1321 When made 1937

Registered Horse Power Owners Broken Hill Proprietary Co. Ltd Port belonging to Melbourne

Nom. Horse Power as per Rule 504 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Including exhaust turbine - 553

Trade for which Vessel is intended Carrying iron ore on the Australian coast.

ENGINES, &c.—Description of Engines Quadruple expansion Revs. per minute 80

Dia. of Cylinders 24"-34 1/2"-50"-71" Length of Stroke 48" No. of Cylinders 4 No. of Cranks 4

Crank shaft, dia. of journals as per Rule 14.47" as fitted 14 3/4" Crank pin dia. 14 3/4" Crank webs Mid. length breadth 23 1/2" Thickness parallel to axis 10" Mid. length thickness 10" shrunk Thickness around eye-hole 6 7/8"

Intermediate Shafts, diameter as per Rule 13.782" as fitted 14" Thrust shaft, diameter at collars as per Rule 14.47" as fitted 14 3/4"

Tube Shafts, diameter as per Rule - as fitted - Screw Shaft, diameter as per Rule 15.398" as fitted 15 7/8" Is the { tube } shaft fitted with a continuous liner { yes

Bronze Liners, thickness in way of bushes as per Rule .77" as fitted 13/16" Thickness between bushes as per Rule .55" as fitted 3/4" Is the after end of the liner made watertight in the propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -

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 liners are fitted, is the shaft lapped or protected between the liners - Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft? no If so, state type - Length of Bearing in Stern Bush next to and supporting propeller 5'-4"

Propeller, dia. 18'-3" Pitch 18'-3" No. of Blades 4 Material Bronze whether Moveable yes Total Developed Surface 95.5 sq. feet

Feed Pumps worked from the Main Engines, No. none Diameter - Stroke - Can one be overhauled while the other is at work -

Bilge Pumps worked from the Main Engines, No. none Diameter - Stroke - Can one be overhauled while the other is at work -

Feed Pumps { No. and size 2 @ 9 1/2" x 7 x 21" How driven steam Pumps connected to the Main Bilge Line { No. and size 2 @ 8" & 9" x 18" - (Bilge pumps) & ballast pump How driven steam

Ballast Pumps, No. and size 2 @ 12 1/2" & 14 x 24 Lubricating Oil Pumps, including Spare Pump, No. and size -

Are two independent means arranged for circulating water through the Oil Cooler - Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 @ 3" & 1 @ 2" in Eng. room. 4 @ 2 1/2" in stokehold. 1 @ 2" in cofferdam aft. 1 @ 2" in cofferdam fwd.

In Pump Room - In Holds, &c. No. 1 hold - 2 @ 3". No. 2 hold - 2 @ 3". No. 3 hold - 2 @ 4"

Hold suction fitted at G.R.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 12" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 4 1/2"

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes yes

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with 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 Overboard Discharges above or below the deep water line both

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

What Pipes pass through the bunkers none How are they protected -

What pipes pass through the deep tanks no deep tank Have they been tested as per Rule -

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

Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another yes Is the Shaft Tunnel watertight none Is it fitted with a watertight door - worked from -

MAIN BOILERS, &c.—(Letter for record (S) Total Heating Surface of Boilers 6612 sq. ft.

Is Forced Draft fitted yes No. and Description of Boilers 3 water tube Working Pressure 250

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes See Rpt. No. 59185 (herewith)

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

Is the donkey boiler intended to be used for domestic purposes only -

PLANS. Are approved plans forwarded herewith for Shafting no Main Boilers See Rpt. Auxiliary Boilers - Donkey Boilers -

(If not state date of approval)

Superheaters See Rpt. General Pumping Arrangements no Oil fuel Burning Piping Arrangements -

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes

State the principal additional spare gear supplied one propeller shaft. 2 propeller blades. one bottom end bearing. one top end bearing. one impeller for circulating pump.

The foregoing is a correct description,
For David Rowan & Co. Ltd
Arch. H. Grierson

Manufacturer.



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Lloyd's Register
Foundation

18181-0039

Apr 24 1905

1936 Oct: 28 Nov: 5. 18 Dec: 18. 21. 23. 28. 30 (1937) Jan: 19 Feb: 8. 15. 24 Apr: 13. 14. 15. 16
During progress of work in shops -- 19. 26. 27 May: 11. 13. 19. 20. 21. 25. 27 June: 1. 2. 3. 4. 11. 15. 23. 30 July: 5. 8. 9. 12. 13. 14. 29
Aug: 9. 12. 13. 23. 24. 26. 30 Sep: 2. 6. 13. 14. 15. 20. 21. 23. 24. 28 Oct: 1. 4. 6. 11. 18. 20. 25
During erection on board vessel -- 29 Nov: 1. 3. 4. 5. 8. 9. 10. 18. 24. 26. 29. 30 Dec: 1. 2. 6. 7. 8. 9. 11. 13. 15. 16. 17. 22
Total No. of visits 90

Dates of Examination of principal parts—Cylinders 12-8-37 Slides 28-9-37 Covers 24-8-37
Pistons 21-9-37 Piston Rods 25-10-37 Connecting rods 21-5-37
Crank shaft 15-9-37 Thrust shaft 15-9-37 Intermediate shafts none
Tube shaft none Screw shaft 4-10-37 Propeller 11-10-37
Stern tube 23-9-37 Engine and boiler seatings Guk Engines holding down bolts 2-12-37
Completion of fitting sea connections Guk

Completion of pumping arrangements 11-12-37 Boilers fixed 24-11-37 Engines tried under steam 22-12-37

Main boiler safety valves adjusted 13-12-37 Thickness of adjusting washers For the P 3/8. S 5/16. Start & br both 1/32. After br both 1/32

Crank shaft material I. steel Identification Mark * 15-9-37 Thrust shaft material I. steel Identification Mark * 15-9-37

Intermediate shafts, material none Identification Marks * 15-9-37 Tube shaft, material — Identification Mark * 15-9-37

2 Screw shafts material I. steel Identification Mark * 15-9-37 Steam Pipes, material Steel Test pressure 750 Date of Test 6-12-37

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 the Rules for the use of oil as fuel been complied with yes

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no If so, have the requirements of the Rules been complied with —

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with —

Is this machinery duplicate of a previous case yes If so, state name of vessel "Iron Knight", G.R.P. No. 58974

General Remarks (State quality of workmanship, opinions as to class, &c.)

* In addition to these marks each forging is stamped with its original number as per forging reports herewith.

The Rowan-Götaaverken Turbo compressor has been fitted with these engines and is arranged to compress the exhaust steam from the high pressure cylinder and, after compression, deliver it to the 1st intermediate cylinder valve casing.

The brake horse power of the exhaust turbine is given as 530.

A report on this turbo compressor (T.C. 80) has been prepared on Form 10.

Copy attached

The machinery has been constructed under Special Survey, satisfactorily fitted in the vessel, tried under steam and found good. It is eligible in my opinion for Classification and the Record + LMC 12.37. also notation "Exhaust turbine driving steam compressor".

27/12/37

The amount of Entry Fee ... £ 6 : : When applied for, 28 DEC 1937
Special ... £ 68 : 2 :
Donkey Boiler Fee ... £ : : When received, 10/1
Travelling Expenses (if any) £ : : 10/1

Committee's Minute GLASGOW 28 DEC 1937

Assigned + L.M.C. 12.37 70.

S. C. Davis

Engineer Surveyor to Lloyd's Register of Shipping.



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