

# REPORT ON MACHINERY.

No. 30267  
WED. 14 JUN 1911

Received at London Office

Date of writing Report 1.6.1911 When handed in at Local Office 10/6/11 Port of Glasgow.

No. in Survey held at Parsley Date, First Survey 5/12/10. Last Survey 6/6/1911

Reg. Book. on the Non-propelling Dredger "India" = "INDIA" (Number of Visits) Gross 423. Net 371.

Master Built at Parsley By whom built Fleming Ferguson L<sup>d</sup> 397 When built 1911

Engines made at Parsley By whom made Fleming Ferguson L<sup>d</sup> 397 when made 1911

Boilers made at ditto By whom made ditto when made 1911

Registered Horse Power Owners Port of London Authority Port belonging to London

Nom. Horse Power as per Section 28 112. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Compound Surface Condensing No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 20"-42" Length of Stroke 24" Revs. per minute 90 Dia. of Screw shaft as per rule / as fitted / Material of screw shaft /

Is the screw shaft fitted with a continuous liner the whole length of the stern tube / Is the after end of the liner made water tight in the propeller boss / 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 / If two liners are fitted, is the shaft lapped or protected between the liners / Length of stern bush /

Dia. of Tunnel shaft as per rule / as fitted / Dia. of Crank shaft journals as per rule / as fitted / Dia. of Crank pin 9" Size of Crank webs 16 1/2 x 6 1/8" Dia. of thrust shaft under collars /

No. of Feed pumps 2 Dia. of screw Pitch of Screw a pair independent. 7 1/2 x 5 1/2" No. of Blades / State whether moveable / Total surface /

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 8" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 0 or Sizes of Pumps 6 x 6 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3-2" Stohold 3-2" In Holds, &c. Aft 1-2" Fore 4-2"

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump / Is a separate Donkey Suction fitted in Engine room & size 0 or 2 1/2"

Are 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 /

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks bolts /

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

What pipes are carried through the bunkers None / How are they protected /

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 /

Dates of examination of completion of fitting of Sea Connections 29-3-11 of Stern Tube / Screw shaft and Propeller /

Is the Screw Shaft Tunnel watertight None / Is it fitted with a watertight door / worked from /

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Colville & Sons

Total Heating Surface of Boilers 2202# Is Forced Draft fitted No No. and Description of Boilers 2 Single Ended

Working Pressure 140 Tested by hydraulic pressure to 280 Date of test 14.4.11 No. of Certificate 10933

Can each boiler be worked separately Yes Area of fire grate in each boiler 37.5# No. and Description of Safety Valves to each boiler 2 Direct Spring Area of each valve 4.9# Pressure to which they are adjusted 145# Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8ft. Mean dia. of boilers 11-0 1/8" Length 10-6" Material of shell plates 6

Thickness 13/16" Range of tensile strength 28/32 Are the shell plates welded or flanged / Descrip. of riveting: cir. seams DR

long. seams TRIDBS Diameter of rivet holes in long. seams 7/8" Pitch of rivets 6 1/2" Lap of plates or width of butt straps 13 1/8"

Per centages of strength of longitudinal joint rivets 84.6% plate 86.6% Working pressure of shell by rules 145# Size of manhole in shell 12 x 16"

Size of compensating ring 6 1/2 x 1" No. and Description of Furnaces in each boiler 2 Corrugated Material S Outside diameter 38 1/8"

Length of plain part top / bottom / Thickness of plates crown 7 1/16" bottom / Description of longitudinal joint weld No. of strengthening rings /

Working pressure of furnace by the rules 143 Combustion chamber plates: Material S Thickness: Sides 19/32" Back 9/16" Top 19/32" Bottom 1/8"

Pitch of stays to ditto: Sides 8 1/2 x 9 3/4" Back 9 1/2 x 8" Top 9 x 8" If stays are fitted with nuts or riveted heads / Working pressure by rules 142

Material of stays S Diameter at smallest part 1 1/8" Area supported by each stay 81# Working pressure by rules 142 End plates in steam space: /

Material S Thickness 3/4" Pitch of stays 15 x 15" How are stays secured DN. Washers Working pressure by rules 141 Material of stays S

Diameter at smallest part 3 1/4" Area supported by each stay 225# Working pressure by rules 170 Material of Front plates at bottom S

Thickness 3/4" Material of Lower back plate S Thickness 23/32" Greatest pitch of stays 13 1/2 x 8" Working pressure of plate by rules 145

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 3/8" Material of tube plates S Thickness: Front 3/4" Back 3/4" Mean pitch of stays 8 7/8"

Pitch across wide water spaces 13 1/4" Working pressures by rules 219 Girders to Chamber tops: Material S Depth and thickness of girder at centre 6 3/8 x 5 1/8 (2) Length as per rule 26 1/16" Distance apart 8" Number and pitch of stays in each 2 at 9"

Working pressure by rules 144 Superheater or Steam chest; how connected to boiler / Can the superheater be shut off and the boiler worked separately /

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

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness / How stayed /

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear /

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

Lloyd's Register Foundation

**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 \_\_\_\_\_ Radius of do. \_\_\_\_\_ 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. top end bolts, ditto for bottom end. 2 80 ton bearing bolts. 1 set of coupling bolts. 1 set of Ford. Bidge Pump. valves. 1 set of Piston Rings. A quantity of small bolts & nuts & iron of various sizes.

The foregoing is a correct description,

Manufacturer.

*J. Fleming* Managing Director

Dates of Survey while building: During progress of work in shops - 1910 Dec. 5. 9. 13. 20. 29. 1911 Jan. 12. 18. 30 Feb. 7. 21. 28. Mar. 13. 23. 27. 29. Apr. 14. 18. May 5. 11. 12. 18. 23. 24. June 1. 26. Total No. of visits 26.

Is the approved plan of main boiler forwarded herewith *Yes* donkey " " " *None*

Dates of Examination of principal parts—Cylinders 7-2-11 Slides 12-1-11 Covers 12-1-11 Pistons 29-12-10 Rods 29-12-10 Connecting rods 20-12-10 Crank shaft 18-1-11 Thrust shaft ✓ Tunnel shafts ✓ Screw shaft ✓ Propeller ✓ Stern tube ✓ Steam pipes tested 23-5-11 Engine and boiler seatings 14-4-11 Engines holding down bolts 2-6-11 Completion of pumping arrangements 2-6-11 Boilers fixed 5-5-11 Engines tried under steam 6-6-11 Main boiler safety valves adjusted 2-6-11 Thickness of adjusting washers PV 2/8 SV 13/32 PV 13/32 SV 3/8 Material of Crank shaft S Identification Mark on Do. *LLOYD'S REGISTER* 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 *Coffin (SD)* ✓ Test pressure 280 lb ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c. These engines & motion have been built under special survey in accordance with the approved plan & the workmanship & material are of good quality & is eligible in my opinion for the record of \* NB-140-6-11

These engines are for working the Dredging Plant only

It is submitted that this vessel is eligible for THE RECORD. + NB 6. 11. 140th. *JWR* 15/6/11

The amount of Entry Fee	£	:	:	When applied for,
Special	16	:	16	12/6/1911
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	13/6/1911

*Wm Gordon Dunedin*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *Glasgow* 10 JUN. 1911  
Assigned + NB 6. 11 - 140 lbs.

Glasgow.

Certificate (if required) to be sent to

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

