

REPORT ON MACHINERY.

No. 24239
TUES. 24 JUL 1906

Port of Glasgow

Received at London Office _____

No. in Survey held at Paisley

Date, first Survey 9th Oct 1905 Last Survey July 13th 1906

Reg. Book. on the Dredger 2nd 350

(Number of Visits 21)

Master _____ Built at Paisley By whom built Fleming & Ferguson When built 1906

Engines made at Paisley By whom made Fleming & Ferguson (2nd 350) when made 1906

Boilers made at do By whom made do when made 1906

Registered Horse Power _____ Owners _____ Port belonging to Timaru

Nom. Horse Power as per Section 28 117 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Two New Triple Expansion No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders (12" 18 1/2" 30") 2 Length of Stroke 24" Revs. per minute _____ Dia. of Screw shaft as per rule 6 1/2" Material of screw shaft Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Is the after end of the liner made water tight in 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 _____ If two liners are fitted, is the shaft lapped or protected between the liners Painted Length of stern bush 2-4"
 Dia. of Tunnel shaft as per rule 5 1/8" Dia. of Crank shaft journals as per rule 6 1/4" Dia. of Crank pin 6 1/2" Size of Crank webs 4 1/2" x 2 1/4" Dia. of thrust shaft under collars 6 3/4" Dia. of screw 8-0" Pitch of Screw 10-0" No. of Blades 3 State whether moveable No Total surface 21^{sq} ft each
 No. of Feed pumps 1 Diameter of ditto 2 1/4" Stroke 15" Can one be overhauled while the other is at work each engine
 No. of Bilge pumps 1 Diameter of ditto 2 1/4" Stroke 15" Can one be overhauled while the other is at work each engine
 No. of Donkey Engines 1 Sizes of Pumps 6 x 4 x 6 duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2-2" 1-2 1/4" In Holds, &c. 2-2"

No. of Bilge Injections 2 sizes 3 1/2" Connected to condenser, or to circulating pump jump Is a separate Donkey Suction fitted in Engine room & size Yes 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 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
 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 _____ of Stern Tube _____ Screw shaft and Propeller 21.5.06
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door _____ worked from W.T. Bulkhead

BOILERS, &c.—(Letter for record 18) Manufacturers of Steel Glyde Bridge Steel Company, Ltd.

Total Heating Surface of Boilers 2196.8^{sq} ft Is Forced Draft fitted No No. and Description of Boilers Two Single Ended
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 24.3.06 No. of Certificate 8042
 Can each boiler be worked separately Yes Area of fire grate in each boiler 39^{sq} ft No. and Description of Safety Valves to each boiler 2 Spring Area of each valve 4.9^{sq} in Pressure to which they are adjusted 165 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork Stokehold Mean dia. of boilers 11-0" Length 9-6" Material of shell plates Steel
 Thickness 17/16" Range of tensile strength 27-32 lbs Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D. R. L.
 long. seams D. B. S. Diameter of rivet holes in long. seams 1" Pitch of rivets 7 1/4" Lap of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint rivets 86 Working pressure of shell by rules 178 lbs Size of manhole in shell 16 x 12
 Size of compensating ring 2-6 x 2-2 x 17/16 No. and Description of Furnaces in each boiler 2 Fox's Material Steel Outside diameter 3-7 1/16
 Length of plain part top _____ bottom _____ Thickness of plates crown 15" Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 160 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 23/32"
 Pitch of stays to ditto: Sides 9 x 7 1/2" Back 8 1/2 x 8 1/4" Top 8 1/2 x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 161 lbs
 Material of stays Steel Diameter at smallest part 1.45" Area supported by each stay 6.8^{sq} in Working pressure by rules 170 lbs End plates in steam space: Material Steel Thickness 7/8" Pitch of stays 16 x 16 1/2" How are stays secured D. Nuts Working pressure by rules 163 Material of stays Steel
 Diameter at smallest part 5.05" Area supported by each stay 26.4^{sq} in Working pressure by rules 190 Material of Front plates at bottom Steel
 Thickness 3/4" Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 13" Working pressure of plate by rules 160 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 11 1/2"
 Pitch across wide water spaces 13 1/4" Working pressures by rules 164 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 6 3/4" x 11" x 2" Length as per rule 25 1/2" Distance apart 4" Number and pitch of stays in each 2-9"
 Working pressure by rules 177 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately _____
 Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____ Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
 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 _____

W1240-0013

VERTICAL DONKEY BOILER

Manufacturers of Steel

None

No.	Description		When made	Where fixed
Made at	By whom made			
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
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
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:— *crank pin brasses, air pump rod & bucket, circulating pump rod & bucket, air & circulating pump head valves seats & guards, set of piston rings, etc., & the bolts etc. required by the Rules.*

The foregoing is a correct description,

FOR FLEMING & FERGUSON, LIMITED.

Manufacturer.

Regd. W. W. Moore, Esq.

Dates of Survey while building	During progress of work in shops - -	1905. Oct 9. 23. Nov 1. 9. 17. Dec 4. 11. 15. 18. 26.	Is the approved plan of main boiler forwarded herewith	<i>Yes</i>	
		During erection on board vessel - -		8. 16. 20. 24. June 8. 29. July 12.	<i>None</i>
				Total No. of visits	21

Dates of Examination of principal parts—		Cylinders 22. 2. 06	Slides 22. 2. 06	Covers 22. 2. 06	Pistons 22. 2. 06	Rods 24. 3. 06
Connecting rods		24. 3. 06	Crank shaft 23. 10. 05	Thrust shaft 26. 1. 06	Tunnel shafts 14. 1. 06	Screw shaft 19. 1. 06
Stern tube		24. 4. 06	Steam pipes tested 4. 6. 06	Engine and boiler seatings 19. 6. 06	Engines holding down bolts 19. 6. 06	
Completion of pumping arrangements		12. 7. 06	Boilers fixed 26. 6. 06	Engines tried under steam 26. 6. 06		
Main boiler safety valves adjusted		26/6/06	Thickness of adjusting washers	Port Blk. P 3/8" 3 7/8"	Starb. Blk. 1 3/4" 1 3/4"	
Material of Crank shaft		<i>steel</i>	Identification Mark on Do.	Material of Thrust shaft	<i>steel</i>	Identification Mark on Do.
Material of Tunnel shafts		<i>steel</i>	Identification Marks on Do.	Material of Screw shafts	<i>steel</i>	Identification Marks on Do.
Material of Steam Pipes		<i>Copper</i>		Test pressure	320 lbs	

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

The engines & boilers of this dredger have been constructed under Special Survey & are of good materials & workman ship. They have been securely fitted on board & satisfactorily tried under steam.

*This vessel is in my opinion eligible to have notation * L.M.C/7, 06 (in red) in the Register Book.*

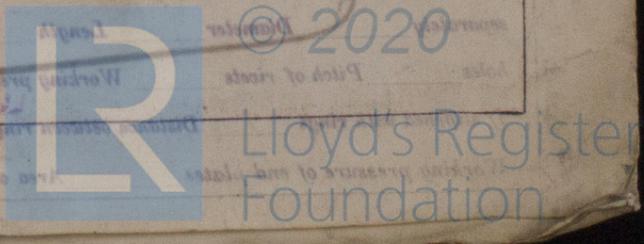
It is submitted that this vessel is eligible for THE RECORD L.M.C. 7.06. ELEC. LIGHT.

The amount of Entry Fee...	£ 2	When applied for, 21. JUL 1906
Special	£ 17	
Donkey Boiler Fee	£	
Travelling Expenses (if any)	£	

H. Gardner-Smith
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
Assigned

+ L.M.C. 7.06



Certificate (if required) to be sent to Committee's Minute.