

REPORT ON MACHINERY.

No. 28035

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4. of writing Report 19-10-14 in Survey held at Hull on the steel screw hopper Dredger 12'4" ter Built at By whom built Gepr. Jonkers ines made at Hull By whom made Carlis & Co Ltd lers made at Hull By whom made Carlis & Co Ltd istered Horse Power Owners Hull & Barnsley Rly Co Port belonging to

2. Horse Power as per Section 28 64 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no
GINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3
Length of Stroke 21" Revs. per minute Dia. of Screw shaft 6.67" Material of steel
of Cylinders 13"-18"-31" Length of Stroke 21" Revs. per minute Dia. of Crank pin 6.2" Size of Crank webs 12.5"x4.5" Dia. of thrust shaft under
the screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the lined made water tight
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
ers are fitted, is the shaft lapped or protected between the liners Length of stern bush 29 1/2"
a. of Tunnel shaft as per rule 6.02 Dia. of Crank shaft journals as fitted 6.2 Dia. of Crank pin 6.2 State whether moveable no Total surface 26 1/2"
lars 6 1/2" Dia. of screw 8'-0" Pitch of Screw 9'-0" No. of Blades 4
of Feed pumps one Diameter of ditto 2 1/2" Stroke 10 Can one be overhauled while the other is at work
of Bilge pumps one Diameter of ditto 2 1/2" Stroke 10 Can one be overhauled while the other is at work
of Donkey Engines two dup. Sizes of Pumps 5 1/4"-3 1/2"x5 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
Engine Room two 2' dia. In Holds, &c. one 2' dia in each compartment

o. of Bilge Injections one sizes 3 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes 2' dia
re 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 none
re all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both
re 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
re 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 Forward suction How are they protected wood casings
re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
re the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
ates of examination of completion of fitting of Sea Connections 24-9-14 of Stern Tube 24-9-14 Screw shaft and Propeller 25-9-14

the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from
ILERS, &c.—(Letter for record S) Manufacturers of Steel Phoenix Abt-Höder & Co. Hilde
Total Heating Surface of Boilers 1210# Is Forced Draft fitted no No. and Description of Boilers one single ended
Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 14-9-14 No. of Certificate 3020
Can each boiler be worked separately Area of fire grate in each boiler 36.6# No. and Description of Safety Valves to
ach boiler two spring loaded Area of each valve 3.97# Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork about 6'-0" dia. of boilers 142" Length 10'-0" Material of shell plates S
Thickness 1" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double
ong. seams J.R.A.B. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 5/8" Lap of plates or width of butt straps 16"
Per centages of strength of longitudinal joint rivets 8.6 Working pressure of shell by rules 186 Size of manhole in shell 12"x16"
Size of compensating ring 8"x1" No. and Description of Furnaces in each boiler two plain Material S Outside diameter 41 1/2"
Length of plain part top 79 1/4" Thickness of plates crown 2 1/2" Description of longitudinal joint welded No. of strengthening rings
bottom 73" Thickness of plates bottom 2 1/2" Working pressure by rules 181
Working pressure of furnace by the rules 187 Combustion chamber plates: Material steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 1/16"
Pitch of stays to ditto: Sides 9 1/2"x9 1/2" Back 10"x8 1/2" Top 9 1/2"x8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 207 End plates in steam space:
Material of stays S Diameter at smallest part 2.07 Area supported by each stay 90# Working pressure by rules 180 Material of stays S
Material S Thickness 1 1/32" Pitch of stays 17'x15 1/2" How are stays secured A. H. Working pressure by rules 204 Material of Front plates at bottom S
Area Diameter at smallest part 5.18 Area supported by each stay 264# Working pressure of plate by rules 194
Thickness 15 1/16" Material of Lower back plate S Thickness 7/8" Greatest pitch of stays 14 1/4"x8 1/2" Working pressure of plate by rules 194
Diameter of tubes 3 1/2" Pitch of tubes 4 3/4"x4 7/8" Material of tube plates S Thickness: Front 15 1/16" Back 13 1/16" Mean pitch of stays 9 5/8"
Pitch across wide water spaces 14 1/2" Working pressures by rules 182 lbs. Girders to Chamber tops: Material S Depth and
thickness of girder at centre 7 3/4"x1 1/2" Length as per rule 29 1/4" Distance apart 8 1/2" Number and pitch of stays in each two - 9 1/2"
Working pressure by rules 196 Superheater or Steam chest; how connected to boiler 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

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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:— Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed, bridge, air & donkey pump valves, one safety valve spring, one main & one donkey feed check valve & a quantity of bolts & nuts & nuts of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops— 1914: Jan 23, 27, Feb 5, 12, Mar 4, 6, 9, 16, 23, 27, Apr 3, 6, 8, 20, 24, 30, May 1, 5, 6, 13.
During erection on board vessel— 15, 20, 22, 26, 28, Jun 10, 11, 12, 15, 17, 18, 22, 25, 30, Jul 6, 10, 15, 28, Aug 8, 10, 13, 14, 19, 21, 27.
Total No. of visits 60

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 6-4-14 Slides 30-6-14 Covers 22-6-14 Pistons 20-5-14 Rods 20-5-14
Connecting rods 30-6-14 Crank shaft 6-5-14 Thrust shaft 6-5-14 Tunnel shafts ✓ Screw shaft 15-5-14 Propeller 22-5-14
Stern tube 10-8-14 Steam pipes tested 9-10-14 Engine and boiler seatings 24-9-14 Engines holding down bolts 6-10-14
Completion of pumping arrangements 13-10-14 Boilers fixed 6-10-14 Engines tried under steam 17-10-14
Main boiler safety valves adjusted 13-10-14 Thickness of adjusting washers 10 1/2 S 7/16
Material of Crank shaft S Identification Mark on Do. 1252 F.L.S. Material of Thrust shaft S Identification Mark on Do. 1050 F.L.S.
Material of Tunnel shafts ✓ Identification Marks on Do. Material of Screw shafts S Identification Marks on Do. 1253 F.L.S.
Material of Steam Pipes S. d. copper ✓ Test pressure 400 lbs. ✓

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been constructed under special survey, in accordance with the approved plans & the rules of this society, the materials & workmanship are good, the boiler & steam pipes have been tested as above & found sound & good. The machinery has been properly fitted & secured on board & on completion was tried under steam & found satisfactory. The safety valves have been adjusted & tested for accumulation which did not exceed 193 lbs.

In my opinion the vessel is eligible for the record & L.M.C. 10.14.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.14.

APR

JWZ.
28/10/14

The amount of Entry Fee .. £ 1 : 0 :
Special .. £ 9 : 12 :
Donkey Boiler Fee .. £ .. :
Travelling Expenses (if any) £ .. :
When applied for, 27-10-14
When received, 4.10.14

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

Committee's Minute FRI. OCT. 30. 1914

Assigned

+ L.M.C. 10.14



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