No. 1659

TRANSFERRED TO L. R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY

AND

REGISTRY OF SHIPPING.

Report No. 1466 No. in Register Book 2647

TRANSFERRED TO L. R. SYSTEM

S.S. "GLENCLOVA"

Makers of Engines FRONTIER IRON WORKS RECONSTRUCTED BY GREAT LAKES TRANSPORTATION CO. LD.

Works No. –

Makers of Main Boilers JOHN INGLIS CO. LD.

Works No. –

Makers of Donkey Boiler /

Works No.

MACHINERY.

008129-008136-0103

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1466 No. in Register Book 2647

Received at Head Office 2nd June 1921

Surveyor's Report on the New Engines, Boilers, and Auxiliary Machinery of the ~~Single~~ ~~Triple~~ ~~Twin~~ ~~Quadruple~~ Screw Steamer "Glencloova"

Official No. 150232 Port of Registry Midland

Registered Owners Great Lakes Transportation Co Ld.

Engines Built by Frontier Iron Works Gt. Lakes Trans. Co. Ld.

at Detroit 1889. Midland 1921

Main Boilers Built by John Inglis Co Ld.

at Toronto 1921

Donkey " "

at

Date of Completion 4-21

First Visit 6-11-19 Last Visit 15-4-21 Total Visits 33

RECIPROCATING ENGINES.

Works No. No. of Sets One Description Triple expansion, Surface condensing

No. of Cylinders each Engine 3 No. of Cranks 3

Diars. of Cylinders 18" - 30" - 50" Stroke 42"

Cubic feet in each L.P. Cylinder 47.72

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.? Yes

" " " each Receiver ? Yes

Type of H.P. Valves, Piston

" 1st I.P. " Slide

" 2nd I.P. " —

" L.P. " Slide

" Valve Gear H.P. Joy. I.P. & L.P. Stephenson

" Condenser Built Cooling Surface 1250 sq. ft.

Diameter of Piston Rods (plain part) H.P. 4 5/8 I.P. L.P. 4 2/8 Screwed part (bottom of thread) —

Material " Ingot Steel

Diar. of Connecting Rods (smallest part) 5 1/4" Material Ingot Steel

" Crosshead Gudgeons Length of Bearing 17" Material do

No. of Crosshead Bolts (each) — Diar. over Thrd. — ~~Threds. per inch~~ Cotter Material

" Crank Pin " " 2 " 3 1/4 " 4 " LS.

" Main Bearings 4 Lengths 14" - 15" - 17"

" Bolts in each 2 Diar. over Thread 3 1/4" Threads per inch 4 Material LS.

" Holding Down Bolts, each Engine 8 - 2 1/2" 44 - 1 1/8 Diar. — No. of Metal Chocks —

Are the Engines bolted to the Tank Top or to a Built Seat ? Built seat

Are the Bolts tapped through the Tank Top and fitted with Nuts Inside ? —

If not, how are they fitted ? —

Connecting Rods, Forged by
Piston " "
Crossheads, "
Connecting Rods, Finished by
Piston " "
Crossheads, "
} Old engine.

Date of Harbour Trial 15th April 1921

" Trial Trip —

Trials run at —

Were the Engines tested to full power under Sea-going conditions ? No

If so, what was the I.H.P.? — Revols. per min. —

Pressure in 1st I.P. Receiver, — lbs., 2nd I.P., — lbs., L.P., — lbs., Vacuum, — ins.

Speed on Trial —

If the Conditions on Trial were such that full power records were not obtained give the following estimated data:—

Builders' estimated I.H.P. 1000 Revols. per min. 95

Estimated Speed 10 Knots.

TURBINE ENGINES.

Works No. Type of Turbines

No. of H.P. Turbines No. of I.P. No. of L.P. No. of Astern

Are the Propeller Shafts driven direct by the Turbines or through Gearing?

Is Single or Double Reduction Gear employed?

Revols. per min. of H.P. Turbines at Full Power

" " I.P. " "

" " L.P. " "

" " 1st Reduction Shaft

" " 2nd "

" " Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

TURBO-ELECTRIC PROPELLING MACHINERY.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafting

Are the Propeller Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Revols. per min. of Generators at Full Power

„ „ Motors „

„ „ Propellers „

Total Shaft Horse Power „

Date of Harbour Trial

„ Trial Trip

Trials run at

Makers of Turbines

„ Generators

„ Motors

„ Reduction Gear

Turbine Spindles forged by

„ Wheels forged or cast by

Reduction Gear Shafts forged by

„ Wheels forged or cast by

SHAFTING.

Are the Crank Shafts Built or Solid? Built

No. of Lengths in each One Angle of Cranks 120°

Diar. by Rule 10·09 Actual $10\frac{15}{16}$" In Way of Webs $10\frac{15}{16}$

" of Crank Pins $10\frac{7}{16}$" Length between Webs $10\frac{1}{16}$"

Greatest Width of Crank Webs $21\frac{1}{2}$" Thickness 7"

Least " " " " 7"

Diar. of Keys in Crank Webs — Length —

" Dowels in Crank Pins — Length — Screwed or Plain —

No. of Bolts ~~each~~ aft Coupling 8 Diar. at Mid Length $2\frac{1}{4}$" Diar. of Pitch Circle $22\frac{3}{4}$"

Greatest Distance from Edge of Main Bearing to Crank Web $3\frac{1}{4}$"

Type of Thrust Blocks ~~Horse~~ Shoe

No. " Rings 5

Diar. of Thrust Shafts at bottom of Collars $10\frac{1}{2}$" No. of Collars 5

" " Forward Coupling $10\frac{1}{2}$" At Aft Coupling $10\frac{1}{2}$"

Diar. of Intermediate Shafting by Rule — Actual — No. of Lengths —

No. of Bolts, each Coupling — Diar. at Mid Length — Diar. of Pitch Circle —

Diar. of Propeller Shafts by Rule 11·23 Actual $11\frac{1}{4}$" At Couplings $10\frac{1}{2}$"

Are Propeller Shafts fitted with Continuous Brass Liners? Yes

Diar. over Liners $12\frac{5}{8}$" Length of After Bearings 4'-3"

Of what Material are the After Bearings composed? Brass & lignum-vitæ

Are Means provided for lubricating the After Bearings with Oil? No

" " to prevent Sea Water entering the Stern Tubes? No

If so, what Type is adopted? —

SKETCH OF CRANK SHAFT.

No. of Blades each Propeller 4 Fitted or Solid ? Fitted.

Material of Blades and Boss Cast iron

Diar. of Propellers 12'-3" Pitch 14'-0" Surface (each) 56 S. ft.

Coefficient of Displacement of Vessel at ⅔ Moulded Depth .78

Crank Shafts Forged by } Old Shaft. Material

" Pins " " "

" Webs " " "

Thrust Shafts " Canada Foundries & Forgings Ld " LS

Intermed. " " none " "

Propeller " " Canada Foundries & Forgings Ld " LS.

Crank " Finished by

Thrust " " John Inglis Co Ld

Intermed. " " John Inglis Co Ld.

Propeller " " John Inglis Co Ld.

STAMP MARKS ON SHAFTS.

B.C.
5804
D.M.
29-6-20

Thrust tail shafts.

SKETCH OF PROPELLER SHAFT.

PUMPS, ETC.

No. of Air Pumps One Diar. 14" Stroke 10"

Worked by Main or Independent Engines? Independent engine

No. of Circulating Pumps One Diar. - Stroke -

Type of " Centrifugal

Diar. of " Suction from Sea 8"

Has each Pump a Bilge Suction with Non-return Valve? Yes Diar. 6"

What other Pumps can circulate through Condenser? Ballast pump

No. of Feed Pumps on Main Engine None Diar. — Stroke —

Are Spring-loaded Relief Valves fitted to each Pump? —

Can one Pump be overhauled while the others are at work? —

No. of Independent Feed Pumps One Diar. 5½" Stroke 12"

What other Pumps can feed the Boilers? Auxy. Feed pump

No. of Bilge Pumps on Main Engine 2 Diar. 4¼" Stroke

Can one Pump be overhauled while the others are at work? Yes

No. of Independent Bilge Pumps One

What other Pumps can draw from the Bilges? None

Are all Bilge Suctions fitted with Roses? Yes

Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges? Yes

Are all Sea Connections made with Valves or Cocks next the Ship's sides? Yes

Are they placed so as to be easily accessible? Yes

Are the Discharge Chests placed above or below the Deep Load Line? Yes

Are they fitted direct to the Hull Plating and easily accessible? Yes

Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges on the Outside? Yes

BOILERS.

Works No.	
No. of Boilers 2 Type	Cylindrical, Multitubular
Single or Double-ended	Single
No. of Furnaces in each	3
Type of Furnaces	Morison
Date when Plan approved	19-1-70
Approved Working Pressure	180 lbs.
Hydraulic Test Pressure	370 "
Date of Hydraulic Test	18-8-70 31-8-70
" when Safety Valves set	by Canadian Government Surveyor.
Pressure at which Valves were set	180 lbs.
Date of Accumulation Test	—
Maximum Pressure under Accumulation Test	—
System of Draught	Closed ashpits
Can Boilers be worked separately	Yes
Makers of Plates	Carnegie Steel Co Homestead Works.
" Stay Bars	Steel Co. of Canada
" Rivets	Canadian Tube & Iron Co
" Furnaces	Lloyds tests
Greatest Internal Diar. of Boilers	13'-0"
" " Length "	10'-10 1/8"
Square Feet of Heating Surface each Boiler	1676
" " Grate " "	53.625
No. of Safety Valves each Boiler 2	Diar. 2 3/4"
Are the Safety Valves fitted with Easing Gear?	Yes
No. of Pressure Gauges, each Boiler One	No. of Water Gauges One
" Test Cocks " 3	" Salinometer Cocks One

Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? Pillars

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes? Pipes.

Are these Pipes connected to Boilers by Cocks or Valves? Yes.

Are Blow-off Cocks or Valves fitted on Boiler Shells? Valves

No. of Strakes of Shell Plating in each Boiler One

" Plates in each Strake Two

Thickness of Shell Plates Approved $1\frac{1}{8}$"

" " in Boilers $1\frac{1}{8}$"

Are the Rivets Iron or Steel? Steel

Are the Longitudinal Seams Butt or Lap Joints? Butt

Are the Butt Straps Single or Double? Double

Are the Double Butt Straps of equal width? Yes

Thickness of outside Butt Straps $\frac{15}{16}$"

" nside " $1\frac{1}{16}$

Are Longitudinal Seams Hand or Machine Riveted? Machine

Are they Single, Double, or Treble Riveted? Treble

No. of Rivets in a Pitch 5

Diar. of Rivet Holes $\frac{15}{16}$" Pitch $8\frac{3}{8}$"

No. of Rows of Rivets in Centre Circumferential Seams —

Are these Seams Hand or Machine Riveted? —

Diar. of Rivet Holes — Pitch —

No. of Rows of Rivets in Front End Circumferential Seams 2

Are these Seams Hand or Machine riveted? Hand

Diar. of Rivet Holes $\frac{15}{16}$" Pitch 4"

No. of Rows of Rivets in Back End Circumferential Seams 2

Are these Seams Hand or Machine Riveted? Machine

Diar. of Rivet Holes $\frac{15}{16}$" Pitch 4"

Size of Manholes in Shell 16" x 12"

Dimensions of Compensating Rings 38" x 34" x $1\frac{1}{8}$"

Thickness of End Plates in Steam Space Approved 15/16"

" " " " " in Boilers 15/16"

Pitch of Steam Space Stays 15½" × 14"

Diar. " " " " Approved 2¾" Threads per Inch 8 - 2½" body.

" " " " " in Boilers 2¾ " 8 do

Material of " " " Steel

How are Stays Secured? Double nuts

Diar. and Thickness of Loose Washers on End Plates –

" " Riveted " " " –

Width " " Doubling Strips " " –

Thickness of Middle Back End Plates Approved 11/16"

" " " " " in Boilers 11/16"

Thickness of Doublings in Wide Spaces between Fireboxes 5/8"

Pitch of Stays at " " " " 14" × 8"

Diar. of Stays Approved 1¾" Threads per Inch 10

" " in Boilers 1¾" " 10

Material " Steel

Are Stays fitted with Nuts outside? Yes

Thickness of Back End Plates at Bottom Approved 4/6"

" " " " " in Boilers 4/6"

Pitch of Stays at Wide Spaces between Fireboxes manhole.

Thickness of Doublings in " " 5/8"

Thickness of Front End Plates at Bottom Approved 11/16"

" " " " " in Boilers 11/16"

No. of Longitudinal Stays in Spaces between Furnaces 3

Diar. of Stays Approved	$2\frac{1}{4}$"	Threads per Inch	8 2" diar body.
,, ,, in Boilers	$2\frac{1}{4}$"		8 do
Material ,,	Steel		

Thickness of Front Tube Plates Approved	$\frac{11}{16}$"
,, ,, ,, ,, in Boilers	$\frac{11}{16}$"
Pitch of Stay Tubes at Spaces between Stacks of Tubes	14" × $8\frac{1}{2}$"
Thickness of Doublings in ,, ,, ,,	5/8"
,, Stay Tubes at ,, ,, ,,	3/8"
Are Stay Tubes fitted with Nuts at Front End ?	no

Thickness of Back Tube Plates Approved	7/8"
,, ,, ,, in Boilers	7/8"
Pitch of Stay Tubes in Back Tube Plates	$8\frac{1}{3}$" × $10\frac{15}{16}$"
,, Plain ,,	$4\frac{3}{8}$ × $4\frac{1}{4}$"
Thickness of Stay Tubes	3/8"
,, Plain ,,	10 wg.
External Diar. of Tubes	$3\frac{1}{4}$"
Material ,,	Iron

Thickness of Furnace Plates Approved	$\frac{17}{32}$"
,, ,, ,, in Boilers	$\frac{17}{32}$"
Smallest outside Diar. of Furnaces	$40\frac{1}{16}$"
Length between Tube Plates	7'-6"

Width of Combustion Chambers (Front to Back)	2'-$4\frac{1}{4}$"
Thickness of ,, ,, Tops Approved	5/8"
,, ,, ,, ,, in Boilers	5/8"
Pitch of Screwed Stays in C.C. Tops	$9\frac{1}{2}$" × $6\frac{9}{16}$"

Diar. of Screwed Stays Approved $1\frac{1}{2}$" Threads per Inch 10

" " " in Boilers $1\frac{1}{2}$" 10

Material " " Steel

Thickness of Combustion Chamber Sides Approved $5/8$"

" " " " in Boilers $5/8$"

Pitch of Screwed Stays in C.C. Sides 8" × 8"

Diar. " " Approved $1\frac{3}{8}$" – $1\frac{1}{2}$" Threads per Inch 10

" " " in Boilers " 10

Material " " Steel

Thickness of Combustion Chamber Backs Approved $5/8$"

" " " in Boilers $5/8$"

Pitch of Screwed Stays in C.C. Backs 8" × $7\frac{5}{16}$"

Diar. " " Approved $1\frac{1}{2}$" Threads per Inch 10

" " " in Boilers $1\frac{1}{2}$" 10

Material " " Steel

Are all Screwed Stays fitted with Nuts inside C.C.? Yes

Thickness of Combustion Chamber Bottoms 1"

No. of Girders over each Wing Chamber 4

" " " Centre " 2

Depth and Thickness of Girders $8\frac{1}{2}$ × 2 @ $\frac{7}{8}$"

Material of Girders Steel

No. of Stays in each 3

No. of Tubes, each Boiler 208

Size of Lower Manholes 16" × 12"

VERTICAL DONKEY BOILERS.

No. of Boilers Type

Greatest Int. Diar. Height

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished ?

Internal Radius of Dished Ends Thickness of Plates

Description of Seams in Boiler Crowns

Diar. of Rivet Holes Pitch Width of Overlap

Height of Firebox Crowns above Fire Grate

Are Firebox Crowns Flat or Dished ?

External Radius of Dished Crowns Thickness of Plates

No. of Crown Stays Diar. Material

External Diar. of Firebox at Top Bottom Thickness of Plates

No. of Water Tubes Ext. Diar. Thickness

Material of Water Tubes

Size of Manhole in Shell

Dimensions of Compensating Ring

Heating Surface, each Boiler Grate Surface

SUPERHEATERS.

Description of Superheaters

Where situated ?

Which Boilers are connected to Superheaters ?

Can Superheaters be shut off while Boilers are working ?

No. of Safety Valves on each Superheater Diar.

Are ,, ,, fitted with Easing Gear ?

Date of Hydraulic Test Test Pressure

Date when Safety Valves set Pressure on Valves

MAIN STEAM PIPES.

	1	2		
No. of Lengths				
Material	Iron	Iron		
Brazed, Welded or Seamless	Welded	Welded		
Internal Diar.	6 5/8"	4·29		
Thickness	1/2"	·355		
How are Flanges secured ?	Riveted	Riveted		
Date of Hydraulic Test	22-11-70	22-11-70		
Test Pressure	540 lbs	540 lbs.		
No. of Lengths				
Material				
Brazed, Welded or Seamless				
Internal Diar.				
Thickness				
How are Flanges secured ?				
Date of Hydraulic Test				
Test Pressure				
No. of Lengths				
Material				
Brazed, Welded or Seamless				
Internal Diar.				
Thickness				
How are Flanges secured ?				
Date of Hydraulic Test				
Test Pressure				

EVAPORATORS.

No. Type Tons per Day

Makers

Working Pressure Test Pressure Date of Test

Date of Test of Safety Valves under Steam

FEED WATER HEATERS.

No. one Type Suction

Makers Midland B. Co. Ld.

Working Pressure Low Test Pressure — Date of Test —

FEED WATER FILTERS.

No. one Type Suction Size 2½"

Makers Peacock Bros

Working Pressure Low Test Pressure — Date of Test —

LIST OF DONKEY PUMPS.

Main Feed 8" × 5½" × 12"
From Condenser, tanks, hotwell, sea
To main feed, Ausy feed, deck

Auxiliary Feed & General Service. 10" × 5" × 10"
From Hotwell, tanks, sea, boilers
To main feed, Ausy. feed, ash ejector, deck

Independent Bilge pump.
From Bilge main, Direct bilge, Sea
To Deck, overboard

Ballast Pump 10½" × 14" × 24"
From Tanks - Sea
To Tanks, Condenser, Overboard

SPARE GEAR.

No. of Top End Bolts. 2	No. of Bot. End Bolts. 2	No. of Cylinder Cover Studs 6
„ Coupling Bolts 1 set	„ Main Bearing Bolts 2	„ Valve Chest „ 6
„ Junk Ring Bolts	„ Feed Pump Valves 1 set	„ Bilge Pump Valves 1 set
„ H.P. Piston Rings	„ L.P. Piston Rings	„ L.P. Piston Rings
„ „ Springs	„ „ Springs	„ „ Springs
„ Safety Valve „ one	„ Fire Bars ½ set	„ Feed Check Valves
„ Piston Rods	„ Connecting Rods	„ Valve Spindles
„ Air Pump Rods	„ Air Pump Buckets	„ Air Pump Valves
„ Cir. „	„ Cir. „	„ Cir. „
„ Crank Shafts	„ Crank Pin Bushes	„ Crosshead Bushes
„ Propeller Shafts	„ Propellers	„ Propeller Blades
„ Boiler Tubes	„ Condenser Tubes	„ Condenser Ferrules

OTHER ARTICLES OF SPARE GEAR:—

Assorted bolts nuts
Assorted bar & plate iron &c.

REFRIGERATORS.

No. of Machines Capacity of each

Makers

Description

No. of Steam Cylinders, each Machine No. of Compressors No. of Cranks

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines or Independently

System of Refrigeration

" Insulation

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces?

Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage?

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?

Date of Test under Working Conditions

RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after hours.

Articles of Spare Gear for Refrigerating Plant carried on board:—

ELECTRIC LIGHTING.

Installation Fitted by Midland Shipbuilding Co Ld.

No. and Description of Dynamos One, Compound wound

Makers of Dynamos Westinghouse Electric Co.

Capacity " 82 Amperes, at 110 Volts, 400 Revols. per Min.

Current Alternating or Continuous Continuous

Single or Double Wire System Double wire

Position of Dynamos Engine room, Operating deck, Starboard.

" Main Switch Board Close to dynamo

No. of Circuits to which Switches are provided on Main Switch Board Nine

Particulars of these Circuits:—

Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
1	8	16	3.6	8			600
2	8	"	3.6	8			megs
3	8	"	3.6	8			"
4	24		10.8	8			"
5	19		8.5	8			"
6	4		3.	8			"
7							
8	25	"	11.25	8			"
9	12	"	5.4	8			"

Total No. of Lights 108 No. of Motors driving Fans, &c. None No. of Heaters None

Current required for Motors and Heaters —

Positions of Auxiliary Switch Boards, with No. of Switches on each

Afte accommodation Hallway S. Side 4 circuits
Engine room, operating deck "
Forward accommodation Crew Hall "

Are Cut-outs fitted as follows ?—

On Main Switch Board, to Cables of Main Circuits Yes

On Aux. " " each Auxiliary Circuit Yes

Wherever a Cable is reduced in size Yes

To each Lamp Circuit Yes

To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted Yes

Are the Fuses of Standard Sizes ? Yes

Are all Switches and Cut-outs constructed of Non-inflammable Material ? Yes

Are they placed so as to be always and easily accessible ? Yes

Smallest Single Wire used, No. 14 S.W.G., Largest, No. 2 S.W.G.

How are Conductors in Engine and Boiler Spaces protected ? Galvanized iron conduit

" Saloons, State Rooms, &c., " ? wood moulding

What special protection is provided in the following cases ?—

(1) Conductors exposed to Heat or Damp Galvanized iron conduit

(2) " passing through Bunkers or Cargo Spaces do

(3) " " Deck Beams or Bulkheads do

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables is unimpaired ? Yes

Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces ? Yes

Are all Hull Connections for Single-Wire Systems made with Screws of large Surface ? —

Are the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously affected by them ? Yes

Have Tests been made to prove that this condition has been satisfactorily fulfilled ? Yes

Has the Insulation Resistance over the whole system been tested ? Yes

What does the Resistance amount to ? — Ohms.

Is the Installation supplied with a Voltmeter ? Yes

" " " an Ampere Meter ? Yes

Date of Trial of complete Installation 15-4-21 Duration of Trial 24 hours.

GENERAL CONSTRUCTION.

Have the Machinery and Boilers been constructed in accordance with the requirements of the Rules and the Approved Plans? Yes

If not, give details of the points of difference, and state when these were sanctioned by the Chief Surveyor.

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen sound and trustworthy? Yes

Is the Workmanship throughout thoroughly satisfactory? Yes

The above correctly describes the Machinery of the S.S. "Glenclova"

as ascertained by ~~us~~ me from personal examination

Duncan McArthur

Engineer Surveyor to the British Corporation for the Survey and Registry of Shipping.

Fees—

		£	s.	d.
MAIN BOILERS.				
H.S.	Sq. ft.		:	:
G.S.	,,		:	:
DONKEY BOILERS.				
H.S.	Sq. ft.		:	:
G.S.	,,		:	:
	£		:	:
ENGINES.				
L.P.C.	Cub. ft.		:	:
	£		:	:
Testing, &c.			:	:
	£		:	:
Expenses			:	:
Total ...	£		:	:

It is submitted that this Report be approved,

H. Lester King

Chief Surveyor.

Approved by the Committee for the Class of **M.B.S.*** on the 22nd June 1921

Fees advised

Fees paid

Secretary.