

15 AUG 1930

NEVCASTLE-ON-TYNE

Oct/28 Last Survey 9 Aug. 1930.

23 Oct / 28 Last Survey 9 Aug. 1930.

Req. Book.

Gross

When built 1923-19.

Engine No.

By whom made Luan Hunter & W R Smead & Bates

When made 1930.

Cardas.

tric Light fitted yes

Two E. P. Bauer. Wash Turbines.

Ahead 1 Pt. 1 St. Direct coupled, } to Two propelling shafts. No. of primary pinions to each set of reduction gearing One
Astern - ~~single reduction geared~~ }
double reduction geared }

rect coupled to { Alternating Current Generator phase periods per second } rated Kilowatts Volts at revolutions per minute;
Direct Current Generator }

r supplying power for driving *Propelling Motors, Type*
 ed *Kilowatts* *Volts at* *revolutions per minute.* *Direct coupled, single or double reduction geared to* *propelling shafts.*

[illegible]

Horse Power at each turbine $\left\{ \begin{array}{l} H.P. \dots\dots\dots \\ I.P. \dots\dots\dots \\ L.P. \text{ 1182} \end{array} \right.$
 Revolutions per minute, at full power, of each Turbine Shaft $\left\{ \begin{array}{l} H.P. \dots\dots\dots \\ I.P. \dots\dots\dots \\ L.P. \text{ 3546} \end{array} \right.$
 1st reduction wheel 552
 main shaft 91.5

Motor Shaft diameter at journals	H.P. <u>7</u>	Pitch Circle Diameter	1st pinion <u>230.92</u>	1st reduction wheel <u>498.62</u>	Width of Face	1st reduction wheel <u>250</u> ¹ / ₁₆
	I.P.		2nd pinion <u>348.62</u>	main wheel <u>2166.42</u>		main wheel <u>530</u> ¹ / ₁₆
	L.P. <u>140</u> ¹ / ₁₆		(1st pinion <u>232.36</u> ¹ / ₁₆)	1st reduction wheel <u>2600</u> ¹ / ₁₆		

distance between centres of pinion and wheel faces and the centre of the adjacent bearings

flexible Pinion Shafts, diameter { 1st 95⁴/₁₆ Pinion Shafts, diameter at bearings { External 1st { 140⁴/₁₆ ✓ 340⁴/₁₆ diameter at bottom of pinion teeth { 1st 216.3⁴/₁₆ ✓
2nd - 190⁴/₁₆ ✓ Internal 1st { - 2nd { 285⁴/₁₆ ✓ 2nd 360.8⁴/₁₆ ✓

Wheel Shafts, diameter at bearings	1st <u>260</u> " <u>4 1/2</u> " diameter at wheel shroud, main <u>300</u> "	1st <u>142</u> " <u>7</u> " Generator Shaft, diameter at bearings main <u>3049</u> " <u>4</u> " Propelling Motor Shaft, diameter at bearings
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Intermediate Shafts, diameter as per rule 12.06" ✓ Thrust Shaft, diameter at collars as per rule 12.06" ✓ Tube Shaft, diameter as per rule 12.06" ✓
as fitted 12.478" ✓ as fitted 12.06" ✓ as fitted 12.06" ✓

crew Shaft, diameter *as per rule*..... *Is the* { *tube* } *shaft fitted with a continuous liner* { **Bronze Liners, thickness in way of bushes** *as per rule*.....
as fitted..... *screw*..... *as fitted*.....

thickness between bushes as per rule..... Is the after end of the liner made watertight in the propeller boss..... 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 oil..... If two liners are fitted, is the shaft lamed or protected between the liners..... Is an approved Oil Glass used.....

Other appliance fitted at the after end of the tube shaft..... Length of Bearing in **Stern Bush** next to and supporting propeller.....

Propeller, diameter _____ Pitch _____ No. of Blades _____ Slide whether Moveable _____ Total Developed Surface _____ square feet _____
 Can the H.P. or I.P. Turbine exhaust direct to the _____

No. of Turbines fitted with astern wheels		Feed Pumps	No. and size
			How driven

No.	Name	No. and size
	Main Filage Line	

Pumps connected to the Main Barge Line { *How driven* _____

Ballast Pumps *No. and size* _____

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, No. and size:—In Engine and Boiler Room.....

Main Water Circulating Pump Direct Bilge Suctions, No. and size..... **Independent Power Pump Direct Suctions to the Engine Room**.....

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes.....

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

Are all Sea Connections fitted direct on the skin of the ship
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Are they fixed close to the Plates
Are the Overboard Discharges above or below the deep water line

Pl. 95 C. J. fitted with a spiral air-brass covering plate

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel. Are the Blow Off Cocks fitted with a spigot and brass covering plate.

What pipes pass through the bunkers. How are they protected.

What pipes pass through the deep tanks..... Have they been tested as per rule

What pipes pass through the deep tanks..... Have they been tested as per rule

..... connection with the machinery and all boiler mountings accessible at all times.

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 space into another?

compartment to another..... Is the Shaft Tunnel watertight..... Is it fitted with a watertight door..... worked from.....

Total Heating Surfaces of Boilers

No. and Description of Boilers

Working Pressure

Is a Report on Main Boilers now forwarded?

Is { a Donkey } Boiler fitted? { an Auxiliary }

If so, is a report now forwarded?

Plans. *Are approved plans forwarded herewith for Shuffling*
(If not slate date of approval)

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:—

as per Society's Rules and attached List

The foregoing is a correct description.

FOR
SWAN, HUNTER & WID

		1928	1929	1930
Dates of Survey while building	During progress of work in shops --	Oct. 23, 30. Nov. 22. Dec. 6.	Jan. 22, 30. Feb. 11. Apr. 10. May 19.	June 2, 11, 18, 14, 25.
	During erection on board vessel ---	Oct. 1, 2, 4, 7, 9, 14, 25, 28.	Nov. 5, 8, 12, 18, 21.	Jan. 17. May 15, 20, 22, 27, 29.
		Aug. 1, 5, 7, 8, 9.		June 11, 17, 19.
	Total No. of visits	55		

Dates of Examination of principal parts—Casings 20.8.29. Rotors 18.11.29 Blading 18.11.29 Gear
Wheel shaft 12.11.29 Thrust shaft 12.11.29 Intermediate shafts — Tube shaft — Screw shaft.
Propeller — Stern tube — ~~TURBINE~~
~~Engine and boiler~~ seatings 16.6.30. Engine holding down bolts 3.
Completion of pumping arrangements — Boilers fixed — Engines tried under steam 8.8.30

Rotor shaft, Material and tensile strength	Steel	(As per Attached Rpt.)	Identification Mark	59120 8.2.8 18.11.29.
Flexible Pinion Shaft, Material and tensile strength	Steel	"	Identification Mark	59120 8.2.8 18.11.29.
or Pinion shaft, Material and tensile strength	Steel	"	Identification Mark	59120 8.2.8 18.11.29.
Reduction Wheel Shaft, Material and tensile strength	Steel	"	Identification Mark	"
or Pinion shaft, Material	Steel	"	Identification Mark	"
Intermediate shafts, Material	Steel	"	Identification Marks	"
Steam shaft, Material	Steel	"	Identification Marks	"
Thrust shaft, Material	Steel	"	Identification Mark	"
Tube shaft, Material	"	"	Identification Marks	"
Steam Pipes, Material	"	"	Test pressure	"

Date of test _____ Is an installation fitted for burning oil fuel _____

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 _____

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo _____ If so, have the requirements of the Rules been complied with _____

Is this machinery a duplicate of a previous case yes If so, state name of vessel Pat-Campbell

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery has been built under special survey in accordance with the approved plans & the Rules of the Society & has been securely fitted on board the vessel, tried under full working conditions & found satisfactory. The turbines have been built to work in conjunction with the existing reciprocating engines. The workmanship & materials are of good quality throughout.

The amount of Entry Fee	...	£	:	:	When applied for,
Special	...	£	34	: 6	14 AUG 1930
Donkey Boiler Fee	...	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	:	19-8-30

Wm. A. Hervey.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI 29 AUG 1930

TUE. 8 DEC 1931

TUE 18 OCT 1932

Assigned

TUE. 15 JAN 1932

Lloyd's Register
Foundation