

No. 20812

Date of writing Report *23<sup>rd</sup> Dec. 1938* When handed in at Local Office *23<sup>rd</sup> Dec. 1938* Port of *Grimsby.*  
 No. in Survey held at *Lincoln* Date, First Survey *3. 10. 38* Last Survey *8. 12. 1938*  
 Reg. Book. *Single* on the *Twins* *Triple* *Quadruple* Screw vessel *Single Screw Motor Tanker "CAIRNDALE"* Tons { Gross *8128.88*  
 Built at *Belfast* By whom built *Harland & Wolff* Yard No *1014* When built *1939*  
 Owners *Admiralty* Port belonging to *London*  
 Oil Engines made at *Lincoln* By whom made *Ruston & Hornsby, Ltd* ENGINE Contract No. *194529* When made *1938*  
 Generators made at *Simchland* By whom made *Simchland Eng. & Eng. Co., Ltd* GENERATOR Contract No. *F6570* When made *1938*  
 No. of Sets *One* Engine Brake Horse Power *16 1/2* Nom. Horse Power as per Rule *6* Total Capacity of Generators *8* Kilowatts.

**OIL ENGINES, &c.**—Type of Engines *Vertical Solid Injection* 2 or 4 stroke cycle *4* Single or double acting *Single*

Maximum pressure in cylinders *800 lbs.* Diameter of cylinders *4 1/2"* Length of stroke *4 1/2"* No. of cylinders *3* No. of cranks *3*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *5 3/32"* Is there a bearing between each crank *Yes*

Revolutions per minute *750* Flywheel dia. *24"* Weight *380 lbs.* Means of ignition *Compression* Kind of fuel used *Kerosene oil.*

Crank Shaft, dia. of journals *as per Rule Approved* Crank pin dia. *2 3/4"* Crank Webs *Mid. length breadth 3 3/4"* Thickness parallel to axis *as fitted 2 3/8"* *3 centre* *Mid. length thickness 1 1/8" & 1 1/16" shrunk* Thickness around eye hole *as per Rule Approved*

Flywheel Shaft, diameter *as fitted 2 3/8"* Intermediate Shafts, diameter *as per Rule* Thickness of cylinder liners *5/16"*

Is a governor or other arrangement fitted to prevent racing of the engine when declutched *Yes* Means of lubrication *Forced.*

Are the cylinders fitted with safety valves *No. (Hand starting)* Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *Yes*

Cooling Water Pumps, No. *One* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *Yes*

Lubricating Oil Pumps, No. and size *One, geared.*

Air Compressors, No. *✓* No. of stages *✓* Diameters *✓* Stroke *✓* Driven by *✓*

Scavenging Air Pumps, No. *✓* Diameter *✓* Stroke *✓* Driven by *✓*

**AIR RECEIVERS:**—Have they been made under Survey *✓* State No. of Report or Certificate *✓*

Is each receiver, which can be isolated, fitted with a safety valve as per Rule *✓*

Can the internal surfaces of the receivers be examined *✓* What means are provided for cleaning their inner surfaces *✓*

Is there a drain arrangement fitted at the lowest part of each receiver *✓*

**High Pressure Air Receivers, No.** *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*

Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓*

Starting Air Receivers, No. *✓* Total cubic capacity *✓* Internal diameter *✓* thickness *✓*

Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓*

**ELECTRIC GENERATORS:**—Type *Enclosed, ventilated.*

Pressure of supply *110* volts. Full Load Current *73* Amperes. Direct or Alternating Current *Direct.*

Alternating current system, state the periodicity *✓* Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on and off *Yes*

Generators, are they compounded as per rule *Yes* Is an adjustable regulating resistance fitted in series with each *Yes*

Are all terminals accessible, clearly marked, and furnished with sockets *Yes*

Are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched *Yes* Are the lubricating arrangements of the generators as per Rule *Yes*

Do the generators under 100 kw. full load rating, have the Makers supplied certificates of test *Yes* and do the results comply with the requirements *Yes*

Do the generators 100 kw. or over have they been built and tested under survey *✓*

**ANS.** Are approved plans forwarded herewith for Shafting *22-8-36* Receivers *✓* Separate Tanks *✓*  
(If not, state date of approval)

**ARE GEAR**

As per Rule requirements

The foregoing is a correct description

**Ruston & Hornsby Limited,**

Alfred Kimbro

*Manufacturer.*

Oil &amp; Gas Engine Dept.

W1161-0166



Dates of Survey while building { During progress of work in shops - 1938 Oct 3, 13 Nov 12, 21 Dec 5, 8  
During erection on board vessel - 6.  
Total No. of visits

Dates of Examination of principal parts - Cylinders 21-11-38 Covers 21-11-38 Pistons 21-11-38 Piston rods ✓

Connecting rods 21-11-38 Crank and Flywheel shafts 14-11-38 Intermediate shafts ✓

Crank and Flywheel shafts, Material Steel Identification Marks LLOYD'S 5029A-14-11-38AS

Intermediate shafts, Material ✓ Housing Identification Marks LLOYD'S 3468-21-11-38AS

Identification marks on Air Receivers ✓

Is this machinery duplicate of a previous case Yes If so, state name of vessel Mrs. Rpt. 20593

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

This engine has been built under special survey in accordance with the Rules and approved plans.  
The workmanship and materials are good.  
Running tests have been carried out at the Mchrs works with satisfactory results.  
The set is being despatched to Messrs Harland & Wolff, Ltd, Belfast, for fitting on board the vessel.

This engine & dynamos have been efficiently installed & tested and under full working conditions with satisfactory results.

Charles H. Hunter  
Belfast  
6-2-39

Imd. 51. - Transfer.  
(The Surveyors are requested not to write on or below the space for Committee Minute.)

0/3756/T/38/11/896 - P/11/2539  
3991/T/11T.

Request form attached  
The amount of Fee £ 3... £ 2 15 =  
less 5/- for C/S already charged  
(5029A) Charges  
Travelling Expenses (if any) £

When applied for, 28.12.1938  
When received, 29.1.1939  
T. J. M. M. M.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
Assigned See Ft machy rft.

FRI 10 FEB 1939