

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 65145

Port of Newcastle Date of First Survey 13 October Date of Last Survey 12 Nov 1913 No. of Visits 6  
 No. in Reg. Book 96 on the ~~Iron or~~ Steel S.S. Clurna Port belonging to London  
 Built at Newcastle By whom Swan, Hunter & Co When built 1913  
 Owners Anglo-Saxon Petroleum Co Owners' Address \_\_\_\_\_  
 Yard No. 929 Electric Light Installation fitted by Swan Hunter & Co When fitted 1913

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Engine & Dynamo by Clark Chapman engine single cylinder 5" x 5" stroke  
inverted type direct coupled to dynamo dynamo compound wound  
 Capacity of Dynamo 5.5 KW Amperes at 65 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Engine Room aft below P.S. Whether single or double wire system is used double  
 Position of Main Switch Board besides dynamo having switches to groups 5 circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each no auxiliary switch board  
distribution boxes in chart with switches &c

If fuses are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch board to the cables of auxiliary circuits yes and at each position where a cable is branched or reduced in size yes and to each lamp circuit yes  
 If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes  
 Are the fuses of non-oxidisable metal yes and constructed to fuse at an excess of 10% per cent over the normal current  
 Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit yes  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes porcelain

Total number of lights provided for 110 arranged in the following groups:—

A	17	lights each of	16	candle power requiring a total current of	14.42	Amperes
B	32	lights each of	"	candle power requiring a total current of	27.37	Amperes
C	26	lights each of	"	candle power requiring a total current of	22.26	Amperes
D	14	lights each of	"	candle power requiring a total current of	12.4	Amperes
E	21	lights each of	"	candle power requiring a total current of	18.6	Amperes
2	Mast head light with 1 lamps each of	32	candle power requiring a total current of	1.47	Amperes	
2	Side light with 1 lamps each of	32	candle power requiring a total current of	1.47	Amperes	

2 clusters Cargo lights of 6 lights 16 cp candle power, whether incandescent or arc lights  
 If arc lights, what protection is provided against fire, sparks, &c. no arc lamps on this vessel

Where are the switches controlling the masthead and side lights placed chart room

**DESCRIPTION OF CABLES.**

Main cable carrying 94.15 Amperes, comprised of 19 wires, each 13 S.W.G. diameter; .12500 square inches total sectional area  
 Branch cables carrying 27.37 Amperes, comprised of 7 wires, each 15 S.W.G. diameter; .0280300 square inches total sectional area  
 Branch cables carrying 5.0 Amperes, comprised of 3 wires, each 18 S.W.G. diameter; .0053230 square inches total sectional area  
 Leads to lamps carrying 8 Amperes, comprised of 1 wires, each 18 S.W.G. diameter; .0018100 square inches total sectional area  
 Cargo light cables carrying \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ S.W.G. diameter, \_\_\_\_\_ square inches total sectional area

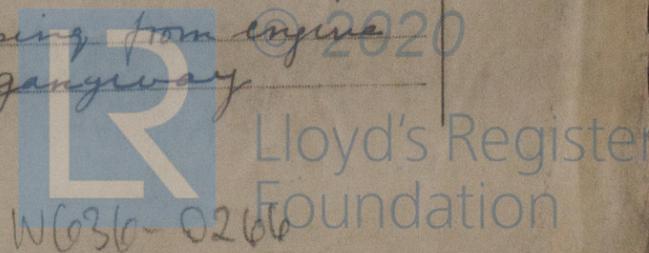
**DESCRIPTION OF INSULATION, PROTECTION, ETC.**

Armoured with steel galvanized wire lead covered braided vulcanized & pure India rubber  
 Joints in cables, how made, insulated, and protected there are no joints in this vessel

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances \_\_\_\_\_ Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage \_\_\_\_\_

Are there any joints in or branches from the cable leading from dynamo to main switch board \_\_\_\_\_

How are the cables led through the ship, and how protected main in iron piping from engine room to fore castle underneath fore & after gangway



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible Yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture lead covering or piping where necessary

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Iron piping

What special protection has been provided for the cables near boiler casings as above

What special protection has been provided for the cables in engine room " "

How are cables carried through beams fibre funnels through bulkheads, &c. to brass glands

How are cables carried through decks in lead or iron tube not less than 18" above deck

Are any cables run through coal bunkers Yes or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected in iron piping

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage no fixtures in spaces

If so, how are the lamp fittings and cable terminals specially protected none

Where are the main switches and fuses for these lights fitted "

If in the spaces, how are they specially protected "

Are any switches or fuses fitted in bunkers "

Cargo light cables, whether portable or permanently fixed portable How fixed by connections

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Double wire system

How are the returns from the lamps connected to the hull " " "

Are all the joints with the hull in accessible positions " " "

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed main board

**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas Yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion none

How are the lamps specially protected in places liable to the accumulation of vapour or gas gas tight fittings

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

Swan Hunter & Wigham Richardson Electrical Engineers Date \_\_\_\_\_

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 210 ft.

Distance between dynamo or electric motors and steering compass "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>8</u>	Amperes	<u>7</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>"</u>	Amperes	<u>"</u>	feet from standard compass	<u>"</u>	feet from steering compass
A cable carrying	<u>"</u>	Amperes	<u>"</u>	feet from standard compass	<u>"</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power Yes on trial Trip

The maximum deviation due to electric currents, etc., was found to be nil degrees on all course in the case of the standard compass and nil degrees on all course in the case of the steering compass.

SWAN HUNTER, & WIGHAM RICHARDSON LTD.

Ablaughton

Builder's Signature. Date 5<sup>th</sup> Decr 1913

**GENERAL REMARKS.**

This installation has been fitted in accordance with the requirements, it has been tried under full power with satisfactory results, in my opinion this vessel is eligible for the record of Elec Light

It is submitted that  
this vessel is eligible for  
**THE RECORD, Elec. light.**

Charles Cooper  
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

