

## REPORT ON ELECTRIC LIGHTING INSTALLATION.

Received at London Office

TUE DEC. 9 - 1913

Port of Newcastle Date of First Survey 13th Aug Date of Last Survey 30th Sept 1913 No. of Visits 6  
 No. in Reg. Book on the Iron or Steel Sh. San Tirso Port belonging to London  
 Built at Newcastle By whom Swan Hunter & Co When built 1913  
 Owners Eagle Oil Transport Co Owners' Address \_\_\_\_\_  
 Yard No. 927 Electric Light Installation fitted by Swan Hunter & Co When fitted 1913

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Electric plants Engine by Clark Chapman 410 Revs Inverted Type  
Dynamo by Clark Chapman's multipole direct coupled to engine  
 Capacity of Dynamos 5.5 KW Amperes at 65 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed in Engine Room below aft-RS Whether single or double wire system is used double  
 Position of Main Switch Board besides Dynamo having switches to groups 4 circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Distribution boxes only fitted  
No auxiliary switch board fitted

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-oxidizable metal Yes and constructed to fuse at an excess of Yes 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

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes porcelain

Total number of lights provided for 106 arranged in the following groups:—

A	<u>24</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19.61</u>	Amperes
B	<u>30</u>	lights each of	"	candle power requiring a total current of	<u>24.60</u>	Amperes
C	<u>27</u>	lights each of	"	candle power requiring a total current of	<u>22.26</u>	Amperes
D	<u>25</u>	lights each of	"	candle power requiring a total current of	<u>20.50</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of		Amperes
<u>2</u>	Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.47</u>	Amperes
	Cargo lights of			candle power requiring a total current of	<u>1.47</u>	Amperes

If arc lights, what protection is provided against fire, sparks, &c. No arc lights on this vessel

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

## DESCRIPTION OF CABLES.

Main cable carrying 86.97 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, 0.04400 square inches total sectional area  
 Branch cables carrying 24.60 Amperes, comprised of 7 wires, each 15 S.W.G. diameter, 0.280300 square inches total sectional area  
 Branch cables carrying 2.20 Amperes, comprised of 3 wires, each 20 S.W.G. diameter, 0.029940 square inches total sectional area  
 Leads to lamps carrying 80 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, 0.018100 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.

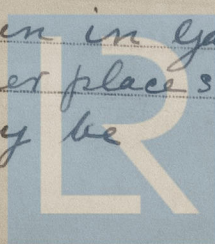
Armoured with steel galvanized wire lead covered  
braided vulcanized & pure India rubber

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 none 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 cables are run in galvanized iron piping from engine room to fore castle; at other places with lead or armouring or both as the case may be



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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. W & B's glands

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

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 no

Cargo light cables, whether portable or permanently fixed Portable How fixed W & B connections

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

How are the returns from the lamps connected to the hull this vessel on the double wire system

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 no 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 200 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>	Ampères	<u>6</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>"</u>	Ampères	<u>"</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>"</u>	Ampères	<u>"</u>	feet from standard compass	<u>6</u>	feet from steering compass

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

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

SWAN, HUNTER, & WIGHAM RICHARDSON, LTD.

A. Bloughton

Builder's Signature.

Date 5th 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. JWD  
9/12/13

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.