

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 13205

Port of Newcastle on Tyne Date of First Survey 16/2/21 Date of Last Survey 9/3/21 No. of Visits 5  
 No. in 1 on the Iron or Steel "Howland Fish" Port belonging to Glasgow  
 Reg. Book 80208 Built at South Shields By whom Hepple & Co When built 1920  
 Owners Bonnie Shipping Co Ltd. Owners' Address \_\_\_\_\_  
 Yard No. 58 Electric Light Installation fitted by Campbell & Sherwood & Co When fitted 1921

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine Robey single cylinder steam engine open type coupled direct to a four pole compound dynamo.

Capacity of Dynamo 30 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed engine room starboard side Whether single or double wire system is used single.

Position of Main Switch Board engine room, on stove bulkhead having switches to groups 2 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 8-way distribution box in chalthouse, 1-3 way distribution box in engine room, 3 way dis box in crew's quarters forward.

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 100 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.

Total number of lights provided for 33 arranged in the following groups:—

A Engine room 13 lights each of 30 watt candle power requiring a total current of 3.9 Amperes

B Saloon & navigation 20 lights each of 1-80 P, 4-32 P, 1-1/2 P candle power requiring a total current of 12.57 Amperes

C \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes

D \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes

E \_\_\_\_\_ lights each of \_\_\_\_\_ candle power requiring a total current of \_\_\_\_\_ Amperes

1 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1.12 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.24 Amperes

2 Cargo lights of 200 C.P. 1/2 watt lamp candle power, whether incandescent or are lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. \_\_\_\_\_

Where are the switches controlling the masthead and side lights placed in chalthouse.

## DESCRIPTION OF CABLES.

Main cable carrying 30 Amperes, comprised of 7 wires, each .052 S.W.G. diameter, .0145 square inches total sectional area

Branch cables carrying 3.9 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

Branch cables carrying 12.57 Amperes, comprised of 7 wires, each .036 S.W.G. diameter, .007 square inches total sectional area

Leads to lamps carrying .56 Amperes, comprised of 3 wires, each .029 S.W.G. diameter, .002 square inches total sectional area

Cargo light cables carrying 1 Amperes, comprised of 40 wires, each .0076 S.W.G. diameter, .0017 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main cables are V.I.R cables run in conduit in engine room

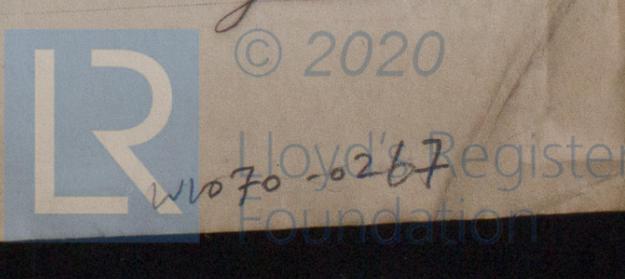
stakehold & galley. lead covered cable in crew's quarters, officers & engineers quarters.

Joints in cables, how made, insulated, and protected none made

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 no

How are the cables led through the ship, and how protected V.I.R cable run in conduit clipped to beams & girders.



**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 *V.I.R. cable in conduit*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *V.I.R. cable in conduit*

What special protection has been provided for the cables near boiler casings *do*

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

How are cables carried through beams *lead bushed holes* through bulkheads, &c. *watertight glands*

How are cables carried through decks *iron deck pipes*

Are any cables run through coal bunkers *yes* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *V.I.R. cable in conduit*

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

If so, how are the lamp fittings and cable terminals specially protected *not fitted in such spaces*

Where are the main switches and fuses for these lights fitted *in engine room*

If in the spaces, how are they specially protected *not fitted in such spaces*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *flexible from watertight socket* How fixed *clipped to bulkhead*

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 *—*

Are all the joints with the hull in accessible positions *—*

Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes*, fixed on switchboard

**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 *—*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *—*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *—*

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.

CAMPBELL & ISHERWOOD LTD. Electrical Engineers Date *11th March 1921*

**COMPASSES.**

PER *Thermo*

Distance between dynamo or electric motors and standard compass *43 feet*

Distance between dynamo or electric motors and steering compass *—*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>7.42</i>	Amperes	<i>5.6</i>	feet from standard compass	feet from steering compass
A cable carrying	<i>.28</i>	Amperes	<i>on the</i>	feet from standard compass	feet from steering compass
A cable carrying		Amperes		feet from standard compass	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *yes*

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.

For HEPPLES (1919) LIMITED,

*W. J. G. Apple* Builder's Signature. Date *15th March 1921*

**GENERAL REMARKS.**

The above installation is in accordance with the Society's Rules. The vessel is eligible in my opinion for notation. Electric light fitted.

It is submitted that this vessel is eligible for THE RECORD. Elec Light Bell *18/3/21*

*W. T. Badger* Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

2m.11.10.—Transfer.

