

May 10-1920

Rpt. 13.

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# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 803.

Port of *Vancouver B.C.* Date of First Survey *March 4/20* Date of Last Survey *April 24/20* No. of Visits *15*  
 No. in Reg. Book on the *Iron or Steel* *S.S. Braheholm* Port belonging to *Cottenburg*  
 Built at *Vancouver, B.C.* By whom *J. Coughlan Sons & Co.* When built *1920*  
 Owners *Swedish American Mercantile Line* Owners' Address *Cottenburg*  
 Yard No. *17* Electric Light Installation fitted by *J. Coughlan Sons & Co.* When fitted *1920.*

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*115 Volt. - 10 H.P. Continuous Current Compound Wound Dynamos. Two off. Direct Connected to Two 6x6 Simple Engines*  
 Capacity of Dynamo *87* Amperes at *115* Volts, whether continuous or alternating current *Continuous*  
 Where is Dynamo fixed *Engine Room Starboard* Whether single or double wire system is used *Double Wire System*  
 Position of Main Switch Board *Engine Room Starboard* having switches to groups *A.B.C.D.E.* of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each *A. Engine Room. 11 Circuits. B. Wheelhouse 6 Circuits. C. Officers Quarters 11 Circuits. D. Prop Panel. Crews Quarters 6 Circuits. E. Wireless*  
 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 *25* 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.*

Total number of lights provided for *215.* arranged in the following groups:—  
 A *95* lights each of *40* candle power requiring a total current of *40* Amperes  
 B *12* lights each of *3-32-4-16-5-8* candle power requiring a total current of *5.5* Amperes  
 C *61* lights each of *28-32-33-16* candle power requiring a total current of *21.5* Amperes  
 D *43.* lights each of *14-32-29-16* candle power requiring a total current of *12.5* Amperes  
 E *Wireless.* lights each of *12-15-18.* candle power requiring a total current of *14.* Amperes  
*2* Mast head light with *1* lamps each of *32* candle power requiring a total current of *2* Amperes  
*2* Side light with *1* lamps each of *32,* candle power requiring a total current of *2* Amperes  
*5* Cargo lights of *6x16-96* candle power, whether incandescent or arc 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 Wheelhouse.*

## DESCRIPTION OF CABLES.

Main cable carrying *87* Amperes, comprised of *247* wires, each *#13* S.W.G. diameter, *0.093056* square inches total sectional area  
 Branch cables carrying *40* Amperes, comprised of *7* wires, each *#17* S.W.G. diameter, *0.017241* square inches total sectional area  
 Branch cables carrying *215* Amperes, comprised of *7* wires, each *#18* S.W.G. diameter, *0.02663* square inches total sectional area  
 Leads to lamps carrying *3* Amperes, comprised of *1* wires, each *#16* S.W.G. diameter, *0.03217* square inches total sectional area  
 Cargo light cables carrying *3* Amperes, comprised of *1* wires, each *#16* S.W.G. diameter, *0.03217* square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Double Braided Rubber Insulated Wires enclosed in Steel Conduit*

Joints in cables, how made, insulated, and protected *Western Union Splices Soldered and Insulated with Two Thickness Rubber Tape. Two Thickness Juction Tape The whole painted with Insulating compound.*  
 Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances *Yes.* 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 *Yes.*  
 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 *in Steel Conduit*

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

Steel Conduit

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

Asbestos Covered Wire in Conduit

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

Asbestos Covered Wire in Conduit

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

Steel Conduit

How are cables carried through beams

In Conduit

through bulkheads, &c. In Conduit

How are cables carried through decks

In Conduit

Are any cables run through coal bunkers

No

or cargo spaces

Yes

or spaces which may be used for carrying cargo, stores, or baggage

Yes.

If so, how are they protected

By Steel 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

✓

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

Permanently Fixed

How fixed

Iron Straps

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

Two

, fixed Main 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.

John Goughan

Electrical Engineers

Date

April 28 1920

COMPASSES.

Distance between dynamo or electric motors and standard compass

200 ft.

Distance between dynamo or electric motors and steering compass

150 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
5.5	16	8	
21.5	24	16	
160	84	76	

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

No

degrees on

any

course in the case of the

standard compass and

No

degrees on

any

course in the case of the steering compass.

J. COUCHILL & SONS LTD.

John Goughan

Builder's Signature.

Date

April 28 1920

GENERAL REMARKS.

Vessel fitted for Wireless, but no Wireless Installation fitted. The Electric Light Installation is of Good Quality Tested under working conditions & found Satisfactory. Eligible in my opinion to be Voted Electric Light in Register Book in the case of this Vessel. It is submitted that this vessel is eligible for THE RECORD. ELEC. LIGHT

26/5/20

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. MAY 28 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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