

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6662.

Port of Belgaet Date of First Survey May 22 Date of Last Survey July 8 No. of Visits 19  
 No. in Reg. Book 12 on the Iron of Steel Port belonging to Melbourne  
 Built at Belgaet By whom Laund & Wolff Ld. When built 1909  
 Owner M. J. Langley & Co. Esqrs. & Messrs. Langley & Co. Esqrs. Owners' Address Laund & Wolff Ld.  
 Yard No. 404 Electric Light Installation fitted by Laund & Wolff Ld. When fitted 1909

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Compound Engines & 2 Holmes Dynamos, each with an output of 90 H.P. @ 500 revs.  
 Engine Cylinders 10" x 16" x 8" Stroke

Capacity of Dynamo 900 Amperes at 100 Volts, whether continuous or alternating current C.C.

Where is Dynamo fixed Engine Room in Thrust Recess.

Position of Main Switch Board Engine Room having switches to groups A.B.C.D.E.F. & G. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 2 C.S. Switch Boxes in Engine Room each with 8 switches, 2 C.S. Switch Boxes in Boiler Room each with 6 switches, and 1 Switch Box with 12 switches in Chart Room.

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits —

Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 1077 - 16 C.P. arranged in the following groups:—

Total number of lights provided for							15 - 32																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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8 Cargo lights & 22 Arcs, 8 of 896 candle power, whether incandescent or arc lights both

If arc lights, what protection is provided against fire, sparks, &c. Glass globes around arcs, strongly protected by G.I. wire guards

Where are the switches controlling the masthead and side lights placed in Chart Room

## DESCRIPTION OF CABLES.

Main cable carrying 220 Amperes, comprised of 61 wires, each 14 L.S.G. diameter, .306647 square inches total sectional area  
 Branch cables carrying 3.9 Amperes, comprised of 7 wires, each 22 L.S.G. diameter, .004266 square inches total sectional area  
 Branch cables carrying 11.8 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .022519 square inches total sectional area  
 Leads to lamps carrying 31 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .03420 square inches total sectional area  
 Cargo light cables carrying 5.6 Amperes, comprised of 14.5 wires, each 38 L.S.G. diameter, .004199 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables are throughout decks of 2500 megohm classed to C.M.A. quality insulated with pure rubber & vulcanized rubber braided & compounded over all. Cables in Engine and Boiler Rooms further protected by steel armouring

Joints in cables, how made, insulated, and protected Soldered using resin as flux, insulated with pure rubber & prepared tape & protected by wood casing in Accommodation, & by iron joint boxes in Cargo Holds

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 Strong wood casing in Accommodation & in pipes throughout Cargo Spaces

F 27 Lights each of 16 Candle power requiring a total current of 15.1 amperes

G. 34

W587-0016



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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 piping

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covering & steel armoured.

What special protection has been provided for the cables near boiler casings Lead covering & steel armoured.

What special protection has been provided for the cables in engine room Lead covering & steel armoured.

How are cables carried through beams beams bushed with fibre through bulkheads, &c. in glands if W.I. otherwise fibre bushed

How are cables carried through decks In iron deck tubes <sup>bushed</sup> with fibre

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 in pipes

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes

If so, how are the lamp fittings and cable terminals specially protected in heavy C.S. Fittings with hinged lids.

Where are the main switches and cut outs for these lights fitted In S. & F. Box in Companionway for No. 2 Hatch, running deck

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers no

Cargo light cables, whether portable or permanently fixed permanently How fixed in pipes & casing

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

How are the returns from the lamps connected to the hull sweated to 3/8" dia. tinned brass Kap screws in beams etc.

Are all the joints with the hull in accessible positions Yes

**VESSELS BUILT FOR CARRYING PETROLEUM.**

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

Are any switches, cut outs, 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 installation is \_\_\_\_\_ supplied with a voltmeter and \_\_\_\_\_ an amperemeter, fixed to Switchboard

The copper used is guaranteed to have a conductivity of 100 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2500 megohms per statute mile after 24 hours' immersion in seawater.

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.

In Harland & Wolff Ltd  
L.W.K.

Electrical Engineers

Date 12 Aug 1909

**COMPASSES.**

Distance between dynamo or electric motors and standard compass between dynamo 160 ft., nearest motor 16 ft.

Distance between dynamo or electric motors and steering compass 180 " " " 10 "

The nearest cables to the compasses are as follows:—

A cable carrying	20	Amperes	16	feet from standard compass	10	feet from steering compass
A cable carrying	15	Amperes	24	feet from standard compass	12	feet from steering compass
A cable carrying	15.6	Amperes	12	feet from standard compass	36	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 courses in the case of the standard compass and nil degrees on all courses in the case of the steering compass.

In Harland & Wolff Ltd  
L.W.K.

Builder's Signature.

Date 12 Aug 1909

**GENERAL REMARKS.**

This installation is of good design & has been fitted in accordance with the Rules.

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

J.W.K. 8/9/09 W.D. R. P. Pennington  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.