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A-2

Yokohama,
20th July 1874.

Captain Brown,
Dear Sir,

I have surveyed the Machinery & more particularly the Boilers of the P.S. "Madras"

The Engines are of the beam geared construction of 275 Nominal Horse Power - Diameter of Cylinders 63 5/8 inches Length of Stroke 5 feet - with 15 lbs of Steam & 24 inches of Vacuum the Engines make 28 Revolutions per minute, & give a speed of 9½ Knots per hour, with about 30 Tons of Coal per day -

The starting gear is complicated & would require considerable skill & a large staff of Engineers to handle quickly in starting & reversing.

So far as could be seen without lifting the cylinder covers & examining the valve faces, &c, the Engines ~~appear~~ in good order, but a more exact report could be furnished

after a short Sea trip.

The Boilers of which there are two, with five furnaces each, were put in the Ship 4½ years ago, & have been well taken care of; there are however a few small patches in the furnaces, & one in the fire box of the Port Boiler

The Safety Valves are loaded to 19½ lbs per square inch. These Boilers are filled with Lamb's patent plugs which at present are in excellent order, but without great attention they soon give out, especially at the fire box end, & are then a source of constant expense & trouble.

Superheaters are fitted in the uptakes, there is a patch on the Port side one where the steam enters it.

I remain,
Yours Faithfully,
H. J. Stillingfleet,
Engineer.

135 A-3

Tokio
August 1st 1874.

To
His Excellency Okuma Shigenobu

Sir.

In accordance with your instructions I have examined the P & O Co's S.S. "Madras", and beg to report the result for your information, the boilers also have been thoroughly examined report of which I annex.

Your Excellency has received the dimensions, power &c of this Ship before, so that it is unnecessary to repeat them here.

She would carry 800 Soldiers and 450 Tons of Cargo, and steam from 9½ to 10 Knots on 30 Tons of coal per day.

Although twenty-two years of age the hull of this Ship is in thoroughly good order, her plates are very thick and would last for a great number of years. Her upper decks are all made of teak and are only about four and a half years old. Her boilers are the same age and with proper care should last another four years.

This Ship is well supplied with Furniture, Stores &c of every description

and taking into consideration the price asked for her I think she is the best Ship that has been offered for sale in Yokohama.

Sam Sir.
Your Obedient Servant
A R Brown

I should add that it is about Six Months since this Ship was in dock, so that when time and circumstances will admit it would be advisable to dock her so as to clean and paint her bottom.
ARB.

Yokohama,
3rd August 1874.

Captain Brown,
Dear Sir,

I have examined the Machinery & Boilers of the P. S. "New York" after her arrival this morning.

The American beam engine of 300 Nominal Horse Power has a single cylinder of 90 inches diameter & 12 feet length of stroke; with the ordinary working pressure of 15 lbs & cutting off the steam at 5 feet 4 inches & 26 inches of Vacuum, the Engine makes about 14 revolutions per minute, giving a speed of 12 Knots per hour — with full steam the Engine makes about 16 revolutions & gives 14 Knots.

The Engine is fitted with surface condenser containing 4,200 Tubes 8 feet long, & worked by a seperate engine, it is also fitted with the ordinary Jet, which can be used if necessary.

The consumption of fuel with ordinary weather & expansion is about 34 Tons Japanese Coal.

Total capacity of Coal Bunkers 500 Tons.

The Boilers of which there are two with 8 furnaces in each, have the usual horizontal tubes – Number of tubes 1120 – Diameter 3½ inches – Length 7 feet 4 inches, giving plenty of steam.

I examined the Boilers as far as was possible considering the fires were drawn only this morning, & the hot water was taken out by Noon so far that the man holes could be removed & the tops of the furnaces seen.

These Boilers considering their age, about 9 years, are in very good order, & with care & the usual repairs, will last for three or four years – there are about 12 patches in the furnaces (sides), & they are patched along the fronts of the ash pits, & also along the seams at the backs of the Boilers.

They are loaded to 25 lbs Steam.

The Vessel is well found in Engineers tools – she has a spare paddle shaft at Yokoska, 1 spare main cross-head, air pump cross head, & crank pin, with shake, brasses, &c.

I remain,
Yours faithfully,
A. N. Shillingford,
Engineer.

Report on "Madras"

To His Excellency Okuma Shigenobu

Minister of Colonisation.

135 13-2

Tokio
August 5th 1874.

To
His Excellency Okuma Shigenobu

Sir.

I beg to inform you that according to your instructions I have examined the P. M. Steam Ship "New York", and for your Excellencies information beg to report the result.

The "New York" is a wooden side Wheel Steamer built at New York in the year 1865.

Horse power about 300 nominal.
Length 302 feet.
Beam 42 "
Depth 26 "

There was a considerable amount of Cargo in this Steamer, but as far as I could examine the whole of her hull is in perfect order. She has an outside sheathing of Oak of 6½ inches thick at the Garboard Streak gradually getting thinner to above the water line. This gives the Ship great additional strength. Her fittings are all good, and she is well

found in stores of every description. She was docked and her bottom newly Coppered, about Six Months ago.

This Ship could carry about 2,000 Men & 400 Tons of Cargo.

This is a very fast Ship, being capable of steaming 14 Knots in smooth Water.

I am Sir.

Your Obedient Servant.

A. A. Brown

Repair on "New York"

To

His Excellency

Okuma Shigenobu

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C-2

Yokohama Iron Works
29th July 1874

Capt. Brown
Dear Sir

We have inspected the machinery of the Steam Ship "Acantha" during the trial trip of Monday last, and have since at your request thoroughly inspected the boilers, as there is no indicator and no means of applying one we could only observe the various Gauges &c during the run in Down from Light Ship to Spit Buoy Steam by the Gauge 28½ lbs do Vacuum 18" cutting off the Steam at one third of the Stroke, and 62 Revolutions of the Engines, On the return run Steam 30 lbs Vacuum 19" Revolutions 62½ cutting off Steam at about ·3 in the Stroke. With these means the Engine Should have been developing 7 to 800 horses power, probably more as the Engineer reported both Steam and Vacuum Gauges incorrectly marked - From the pitch of the Screw and the above revolutions, the Ship Should have been traveling at the rate of 10½ knots, allowing 25% for Slip of Screw, a rather large allowance with a vessel in light trim as the "Acantha" was last Monday.

The Boilers appear to be in fair condition for their age, there is a Small patch in one of the furnaces in the after boiler, and a hand patch in the uptake of the forward boiler - in both boilers the fire grate Surface has been reduced by building in with bricks and the pockets joining the furnaces with the bottom of the combustion chamber are surrounded with the bricks in such a manner as to injure the plates if not inspected

periodically

periodically - or if the boilers were blown down while these bricks were still in a heated state.

The ash pits of the after boilers appear cemented all over, and soft patches are on all the fronts of the water bottoms, these are reported to have been put on some time ago to prevent the wear at this part caused by rake and shovel - All the tube plates are in good order, the tubes require to be renewed altogether shortly, & the bottoms (the only part of the boilers double rivetted) appear in good order and may only require a few stays renewing. The up takes are getting thin in places just under the funnel where the rain has fallen on the plates - we should say that it would be advisable during the time the tubes are being renewed to thoroughly clean the mud and dirt out of the boiler and if on more minute inspection of those parts which we could not get to, any plates or stays appear defective these should be renewed. After this the boilers ought to last if carefully attended to 3 years using about 30 lbs of steam and without any extensive repairs till after that time.

The Engines themselves appear to be a good substantial job and free from complication and less likely to get out of order than the high and low pressure Engines now so much in fashion they require a little overhauling, the lost motion in slide gear to be taken up, and the brasses of crank axle and connecting rods adjusted, All this could be done during the time the boilers are being retubed &c and say in two or three months from this time

We are
Yours faithfully

P Whiteley & Dowson
[illegible]

Engineers report on
S.S. "Acantha"

To His Excellency Okuma Shigenobu
Minister of Colonisation.

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Imperial Govt. of Japan

To A. R. Brown.

Travelling expenses for month of July ¥35.00.

Ans.

Expenses for Italy

Yokohama
30th July 1874.

Captain Brown
Dear Sir,

In accordance with your instructions I have examined the Machinery & Boilers of the P. S. "Nevada" so far as was possible with the ship at anchor & the Boilers filled with water, & fires laid in the furnaces ready for sea.

The Engines of the ordinary American beam construction are fitted with surface & jet condenser - the diameter of cylinders 85 inches - length of stroke 12 feet - pressure of steam 20 lbs - vacuum from 21 to 24 inches - the only expansion fitted cuts off the steam at 5 feet & gives 825 Indicated Horse Power, & an average speed of 10 Knots, consuming 33 to 34 Tons of coal per day; but with full steam the engines will give 1200 Indicated Horse Power & a speed of about 12½ Knots.

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D-2

The Boilers of which there are four with four furnaces in each are filled with Martins Patent Vertical Tubes, of these there are 6080 of 2 inches diam & 3 feet 2 inches long, giving abundance of steam.

The furnaces, tubes & tube plates were renewed about a year ago, & are in good order, the shells of the Boilers also appear to be in good preservation as far as could be seen - the tubes may require a great deal of attention & frequent renewal.

Remain,
Yours faithfully,
A. F. Shillingford,
Engineer.

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E-8

Tokio
August 1st 1874

To
His Excellency Okuma Shigenobu

Sir.

I beg to inform you that in accordance with your instructions I have examined the P.M. Co's Steam Ship "Nevada", and for your information beg to report the result.

S.S "Nevada" built at New York in 1866.
Wooden Paddle wheel Steamer.
Tons 2147.
Length 300 feet. Beam 40 feet.
Depth 28 feet. Have power to Nominal
Consumption of Coal to go 10 Knots, about 32 Tons.
Ditto ditto to go 12 Knots, 35 to 40 Tons.
Gross Carrying Capacity about 1,000 Tons.
This Ship could take about 1,500 Soldiers, and
600 Tons of Cargo.

About one year ago she had a thorough overhaul, and her hull considerably strengthened, she may now be said to be a remarkable strong Ship. Her boilers also were put in thorough order, and I am informed,

by the Engineer who examined them, that with proper care and attention they should be good for five years longer.

The top-sides are not quite what I could wish, the seams between the planks being very wide, probably the result of using partially seasoned wood.

The Boilers although in thorough order may I fear from their construction give a little trouble there being 6080 two inch tubes in the four boilers, and should one give way, which will occasionally happen the boiler must be blown down to repair it.

The Saloon and Cabin fittings are very plain, but substantial.

I should say this Ships ordinary Sea going speed is from 10 to 10½ Knots, and that she is very comfortable and a remarkably good Sea boat.

Mr Hart the Companies Superintendent informed me the Company would take Two Hundred & Seventy Five Thousand Dollars for this Ship, provided the Government would also pay the amount he had lately expended on her for upholstery, new carpets &c which he thought was about eighteen thousand dollars.

I am Sir.
Your Obedient Servant.
A D Brown

Report on "Nevada"

To

His Excellency Okuma Shigenobu

Minister of Colonisation Dep.t