(1) பக்கங்களின் எண்ணிக்கை 30

(2) புதுக்கித் திருப்பிய நாள் 14. 3. 89.

(3) ஆதாரங்குறிப்பவர் சுருக்கெழுத்தம்

தமிழ்நாடு ஆவணக் காப்பகம்.

38

தமிழ்நாடு அரசு

P W D துறை

அரசாணை எண்.
மு. கோப்புத் தாள் எண். 658

அச்சகம்
பலவகை

நாள் : 5. 3. 1889

மடிக்கவோ கண்கூடாடி கையாளவோ கூடாது

15 sheets

ஆவண; ஆ-1—18,006—15-6-87.

15

658/1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following paper:—

From R. W. BARLOW, Esq., C.S., Chairman, Harbour Trust Board, to the Secretary to Government, Public Works Department, dated Madras, 1st March 1889, No. 821.

I have the honor to submit, for the information of Government, in accordance to G.O., No. 59, dated 13th February 1889, copy of a letter from the Board's Engineer, No. 1509, dated 23rd February 1889, reporting upon the progress made upon the Madras Harbour Works during the month of December 1888, with a statement of expenditure and tracing in duplicate.

ENCLOSURE.

From A. L. POGSON, Esq., Engineer, Harbour Trust Board, to the Chairman, Harbour Trust Board, dated Madras, 23rd February 1889, No. 1509.

I now have the honor to submit my report on the progress made on these works during the month of December 1888, together with a return of work and a tracing of the plan of the harbour (submitted in triplicate) showing the progress in red.

2. The statement of expenditure cannot be completed in time to accompany each report, but will be submitted separately in future and as early as possible.

3. *North Pier works.*—There was nothing done at this arm beyond relaying a few rails which had been ripped up by the heavy seas during the monsoon, and thoroughly overhauling the Titan crane, after which it was travelled out on the 19th to a point where additional wave-breaker blocks were required to complete the necessary section.

4. *Concrete block-making.*—The work of concrete block-making was carried on steadily throughout the month, with the exception of four days' stoppages, which were unavoidable on account of rain and holidays.

5. Two hundred and fifty-seven large blocks were made, of which 136 were for the wave-breaker, representing in all an outturn of 4,413½ cubic yards of concrete.

6. *South Pier works capping.*—The total length of wall built during the past working season received a capping of concrete just sufficient to make the surface level enough to allow the Titan lines and all necessary rail roads to be built in concrete so as to save the wear and tear of sleepers.

7. *Superstructure.*—The above capping having had time to harden by the 21st, the Titan crane was travelled over it and out to the extreme end of the pier, and on the 22nd of December turned into position for forward work, and the tank forming the 30-ton balance weight was filled with sea-water.

8. On the 27th December 1888 block-setting was commenced and, by working through the Christmas holidays, the superstructure was advanced by 31 feet up to the evening of the 31st December.

9. This progress must be taken as an additional length of pier built to the coming season's progress or of that made in any of the past years, as block-setting has never before been attempted at an earlier date than the 18th of January.

10. *Pallávaram quarries.*—The renewing of all necessary railway lines at the Pallávaram quarries and repairs to the damaged permanent way through rain and accumulation of silt was well supervised, which enabled twenty-three trains being run during the month, by which 4,917¾ tons of chips were delivered at the crushers for block-making.

11. *Stores from England.*—The following steamers arrived in December 1888 with stores for these works, namely—

By the S.S. *Clan Macarthur* with 24 chilled cast iron wheels for trollies.

By the S.S. *Pundna* with 999 casks containing 178½ tons of Portland cement, also one case hand and cross-cut saws; three cases screw augers, one case brass screws, one case wood screws,

one case coach screws, three rivets, bolts and nuts, twenty drums linseed oil, and twenty kegs of chocolate paint.

By the S.S. *India* with 961 casks containing 172¼ tons of Portland cement.

12. *Stores, local supply.*—The contractor, M. C. Ragava Charry, delivered 392 hard-wood sleepers, of which 16 were for the quarries.

RETURN OF WORKS FOR DECEMBER 1888.

Railway lines.—The lines at the beach and quarries were kept in repair during the month, 1,172 running feet new rails and a new crossing were used in renewing and extending lines, 408 running feet Titan road, 555½ running feet broad gauge permanent line, 299 running feet temporary broad gauge line and 336 running feet meter gauge single lines were laid on the south pier and 573 running feet of broad gauge line was taken up on the said road.

Quarries.—Twenty-three trains worked during the month bringing stone from Pallâveram.

Rubble.—None received since 30th November 1888.

Chips.

	TONS.
Total quantity received up to 31st December 1888	122,796¾
Do. do. 30th November 1888	117,879
Received in December ...	4,917¾

Ballast.—None received.

North Pier surf bank.—Nothing done since 30th November 1888.

Do. rubble base.— } *Do. superstructure.*— }	Do.	30th April 1887.
Do. supplementary works.—	Do.	29th February 1888.
Do. capping.—	Do.	30th November 1888.
South Pier surf bank.—	Do.	30th April 1888.
Do. rubble base.—	Do.	31st October 1888.

South Pier superstructure.

	NO.	C. YDS.
Blocks set up to 31st December 1888	1,233	20,016¼
Do. 30th September 1888	1,187	19,260⅞
In December ...	46	755⅜

Running feet of new wall built up to 31st December 1888	823
Do. do. 30th September 1888	792
In December ...	31
Total length of wall completed from F	3,210
Do. do. G	823

South Pier supplementary works.—Nothing done since 31st October 1888.

Do. capping.—Eight cubic yards capping done.

Do. cramps.—Nothing done since 31st October 1888.

Protective works.—Nothing done.

Concrete blocks.

Description of block.	Made up to 30th Nov. 1888.	Made in Dec. 1888.	Made up to 31st Dec. 1888.	PLACED IN WORK Up to 30th Nov. 1888.	PLACED IN WORK Up to 31st Dec. 1888.	In hand.
Old blocks	806	..	806	806	806	..
Wavebreaker blocks	2,790	136	2,926	2,266	2,266	660
Superstructure.						
North pier bottom blocks	227	..	227	108	108	119
Do. middle do.	743	7	750	405	405	345
Do. top do.	246	2	248	130	131	117
South pier bottom do.	336	23	359	268	246	113
Do. middle do.	939	70	1,009	635	663	346
Do. top do.	340	19	359	233	242	117
Special	71	..	71	71	71	..
Counterbalance	1	..	1	..	..	1

4,413 14/27 cubic yards of concrete was made in the month, block-making was suspended on the 4th and 14th on account of rain, and on the 25th and 26th on account of holidays.

1,134¾ tons was the balance of cement in store at the end of the month.

Fourteen wavebreaker and 6 superstructure blocks were transferred from north to south pier and stacked.

Tools and Plant—Stationery engine-boiler, stonecrushers.—Nos. 1 and 2 donkey pumps brass bearings closed.

No. 1. Two new keys fitted to eccentric and keep and set plates fitted and fixed.

No. 2. Shoot repaired and side wedge and set plates fixed.

No. 3. Side wedge and set plates fixed.

No. 4. Two new jaws and two side wedges fitted and fixed.

Concrete mixers.—No. 1. A new door catch fitted and brass bearings of pump closed and foot-valve repaired.

No. 2. A new door catch fitted and a hammer supplied.

No. 4. A hammer supplied.

Nos. 5 and 6. Brass bearings closed and lined up.

No. 7. Brass bearings closed and lined up, a new pinion and intermediate spur wheel fitted.

No. 8. Brass bearings closed and lined up, a new pinion, intermediate spur wheel, and a new door catch fitted.

Elevators.—Two of the elevator iron boxes were repaired.

Mixing platform.—No. 2. Crane tie rods, chain and pall repaired.

Concrete skips.—Three wrought iron concrete skip boxes were repaired and issued.

Goliath hydraulic crane.—A new wrought iron chimney was made, fitted and painted.

No. 3. Manhole cover to boiler repaired, three fire bars and a travelling wheel fixed and the crane painted throughout.

Light Gantry traveller.—Nos. 1 and 2. Light traveller. The footboards were renewed in teak timber.

Miscellaneous.—Two special brass nuts were made for divers' air pump; thirty-six bolts repaired and fifty cotters and twenty-four eye-bolts made for block frames; six Lewis wedges were made; four parah measures completed; sets of two ⅜", two ½", one ⅝" and ¾" dies were made for the fitting shop.

North Pier Titan.—Three fire bars were made and crane thoroughly overhauled previous to being run out on the 19th December. It stood at 495 feet from B at the end of the month.

South Pier Titan.—This crane was painted throughout; twenty-four new bolts made for ballast tank; the salt-water pump was repaired; a new chain was made for the divers' pump bob; three new wheels were fitted to the traverser and the planking partially renewed. The Titan was taken out on the 21st and turned into position for setting blocks on the 22nd December. It stood at the termination of the new work at the end of the month.

Sand wagons.—No. 5. A tail board hinge fitted and repaired.

Concrete skip trucks.—Nos. 6 and 11. Painted and overhauled. New iron work for two concrete skip trucks was made and fitted.

Harbour Trust Board—Iron Pier repairs.—One hundred feet in length for the half width of the pier; timber work renewed and completed.

Beach improvements.—Two cast iron brackets and lamps were fitted to the north and south goods shed; seven lamp posts with lanterns were fixed about the iron pier.

Harbour Trust boundary fence.—An entrance north of the pier was made and a double gate fixed with a level crossing leading to the coal yard.

A turntable to connect the iron pier with the Madras Railway Engineer's Department was well in hand.

Forty-eight palmyrah breaks were made for the iron pier trucks.

No. 10 B portable crane was undergoing repairs.

ORDER—dated 5th March 1889, No. 658 W., Public Works.

The report will be forwarded to the Secretary of State for India.

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Ag. Secretary to Govt., P.W.D.

To the Chairman N. T. Board
" Marine Dept

Exd. J. Henricus.

Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated March, 5th.

Recd. *Encl.*

G.O., 5th March 1889, No. 658 W.

MARCH.

Madras Harbour Works

Progress report of the — for, December 1888, ordered to be forwarded to the Secretary of State.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following paper :—

From R. W. BARLOW, Esq., C.S., Chairman, Harbour Trust Board, to the Secretary to Government, Public Works Department, dated Madras, 11th February 1889, No. 550.

I have the honor to forward, herewith, a copy of the Engineer's letter, No. 1416, dated 30th January 1889, reporting progress upon the harbour, with a return of work done during the month of November 1888. I also forward a triplicate copy of comparison of expenditure to the 30th idem. Tracing of the harbour was not prepared, as there was no progress made at sea during the month.

2. Copies of the above have also been submitted to the Chief Secretary to Government, Marine Department.

ENCLOSURE.

From A. L. POGSON, Esq., Superintendent, Madras Harbour Works, to the Chairman, Harbour Trust Board, dated Madras, 30th January 1889, No. 1416.

I have the honor to forward a brief account of the work done on these works during the month of November 1888, which as usual during the monsoon is confined to repairs to all the cranes and machinery both in the block-making grounds and workshops, &c.

2. The statement of expenditure for November is submitted with a return of work, but as there was no progress made at sea, I have not prepared the usual plan of the harbour.

MADRAS HARBOUR WORKS.

3. *Concrete block-making.*—The most important work worth mentioning in addition to the information given in detail in the return of work was the very satisfactory way the concrete block-making contractor, M. C. Ragava Charry, carried on on this branch of the works. As many as 14 blocks have been made in a day while only working at one platform, where, with former contractors, 9 blocks was thought to be the greatest number possible, and as the progress when working at both piers would be retarded for the want of blocks, this increased outturn, while reducing the cost per cubic yard, is very important as well as satisfactory.

Two hundred and thirty-seven blocks were made during the month, of which 155 were for the wave-breaker, so that the total quantity of concrete made was 3,883⅓ cubic yards.

4. *Pallávaram quarries.*—The Pallávaram quarry lines were maintained in good order and repair during the month. Twenty-two trains conveyed to Madras 4,418 tons of chips and 245½ tons of rubble, which was deposited at the extreme end of the south pier, making up the base to the full required section.

5. *Stores from England.*—The following stores were received during the month of November :—

By the SS. *Manora*, 1,260 casks containing 225 tons of Portland cement.

By the SS. *Golcondah*, 1,056 casks containing 188⅓ tons of Portland cement, also 3 cases of iron spikes of sizes and 150 fathoms of iron chain ¾″ ½″ and ⅜″.

By the SS. *Duke of Buccleuch*, 952 casks containing 170 tons of Portland cement, also 48 special deal planks and two cases of hammers and washers for the stone-crushers.

By the SS. *Clan Grant* with iron bars round and square and 3 cases containing 2,000 fish plates and bolts which were much needed.

6. *Stores from local supply.*—The contractor for hard junglewood sleepers delivered 472 sleepers, of which 45 were for the Pallávaram quarries.

RETURN OF WORK FOR NOVEMBER 1888.

Railway lines.—The lines at the beach and the quarries were kept in repair during the month; 696 running feet Titan permanent-way and 787 broad gauge permanent-way was built in cement and 812 broad gauge temporary lines laid on south pier; 904 running feet of lines was taken up and 520 running feet laid at sand line; 2,296 running feet of steel rails was issued during the month.

Quarries.—Twenty-two trains worked during the month, bringing the following stone from the Pallávaram quarries.

		TONS.
Rubble	Total quantity received up to 30th November	350,993¾
	Do. do. to 31st October	350,748½
	Received in November	245½
Chips	Total quantity received up to 30th November	117,879
	Do. do. to 31st October	113,461
	Received in November	4,418

Ballast—none received.

North pier, surf bank—245½ tons rubble deposited.
Do. rubble base } nothing done since 30th April 1887.
Do. superstructure }
Do. supplementary works—nothing done since 29th February 1888.
Do. capping—33 cubic yards capping done.
Do. cramps—nothing done since 31st May 1887.

South pier, surf bank—nothing done since 30th April 1888.
Do. rubble base do. 31st Oct. „
Do. superstructure do. 30th Sept. „
Do. supplementary works—nothing done since 31st October 1888.
Do. capping—36½ cubic yards capping done.
Do. cramps—nothing done since 31st October 1888.

Protective works—nothing done.

CONCRETE BLOCKS.

Description of blocks.	Made up to 31st October 1888.	Made in November 1888.	Made up to 30th November 1888.	Placed in work: Up to 31st October 1888.	Placed in work: Up to 30th November 1888.	In hand.
Old blocks	806	..	806	806	806	..
Wave-breaker blocks	2,635	155	2,790	2,266	2,266	524
Superstructure	..	..	..	..	..	..
North pier, bottom blocks ..	227	..	227	108	108	119
Do. middle do. ..	682	61	743	405	405	338
Do. top do. ..	225	21	246	130	130	116
South pier, bottom do. ..	336	..	336	147	147	189
Do. middle do. ..	939	..	939	635	635	304
Do. top do. ..	340	..	340	233	233	107
Special	71	..	71	71	71	..
Counterbalance	1	..	1	..	..	1

3,883⅓ cubic yards of concrete was made in the month, from which the above blocks were made.

There was no block-making on the 9th on account of it being a holiday and heavy rain stopped work on the 24th.

1,427 tons cement was the balance at the end of the month.

TOOLS AND PLANT.

Stationery engine-boiler.—Nos. 1 and 2 donkey pumps, brass bearings closed.

Stone-crushers.—The iron work for a new shoot was made.

No. 1.—White metal run and fixed new jaws, two new side wedges and set plates fixed.

No. 2.—A new hook for the pump rod was made and two new side wedges were fixed.

No. 3.—Two new jaws, two side wedges, one pair brass bearings, and set plates were fixed and grooves chipped for new movable jaws.

No. 4.—New set plates were fixed.

No. 5.—Two new jaws, two side wedges, and a new key to the fly-wheel was fixed.

Concrete mixers, No. 5.—A new door catch was fixed and the brass bearings closed.

No. 6.—Brass bearings closed and four hammers were made for the doors.

Elevators.—Six elevator boxes were repaired.

Concrete skips.—Two repaired. Portable cranes on mixing platform Nos. 1 and 2 each fitted with a new chain.

No. 1 *Goliath crane.*—This crane was repainted and put in thorough repair.

No. 2 *Goliath crane.*—Was fitted with a new hydraulic piston leather.

No. 3 *Goliath crane.*—Was painted and a new travelling wheel fitted to the crab.

Sundries.—Thirteen bolts repaired and a chain sling made for blocking the frames. Shunting ropes were also made for Nos. 1 and 3 locomotive engines. Six knee pieces were made for wedges for lewises and eighty-four spike nails for the diving boats.

Divers' air pump.—Brass bearings closed, twelve ⅜″ bolts, three new screw divers, six fly nut spanners, one hexagonal box spanner, nine spanners of sizes and two new nuts for water-pipe were supplied.

Wave-breaker crane.—The erection of crane was progressing. Two new lever pins, a new end for brake lever, twelve bolts, six new shafts and sixteen keeps for the travelling wheels were made.

South Pier Titan.—A new travelling wheel for the crab and another for crab carriage was fitted and the other travelling wheel of the crab were chipped.

No. 1 *Locomotive engine.*—Brass bearings of connecting and coupling rods closed, waste-water and blow of cocks and coupling chain repaired, boiler cocks and clack box and safety valves ground, left-hand dummy joints remade and foot-steps straightened.

No. 2 *Locomotive engine.*—Brass bearings of connecting and coupling rods closed. Two waste-water cocks and blow through cock for water gauge column fitted and waste-water cock gearing set.

No. 3 *Locomotive engine.*—Dummy gland joints made and boiler cocks ground.

Sand wagons No. 7.—Painted and a pair of new wheels fitted.

Sand wagons No. 10.—Rebuilt and painted.

Sand wagons No. 11.—Painted and a pair of new wheels fitted.

Skip trucks.—The ironwork of these new trucks was made and fitted.

Materials trucks.—Two new axles made and fitted to the wheels.

HARBOUR TRUST.

Beach improvements.—The new shed north of iron pier was completed with the exception of the guttering 116½ running feet, new broad gauge siding was laid and a turn-table near the north goods shed completed. The turn-table connecting Madras Railway stores with iron pier was also completed.

Iron pier.—Forty feet half width of the pier woodwork was renewed and two pile caps fixed.

No. 6.—Sentry-box was repaired. The door of the combustible shed was repaired.

No. 3.—B-class portable crane was thoroughly repaired.

A stand and cage was made for meteorological instruments erected for the use of the Port office.

The ironwork for one of the leading lights of the harbour entrance was completed.

ORDER—dated 16th February 1889, No. 469 W., Public Works.

The report will be forwarded to the Secretary of State for India.

(Here enter No. $\frac{6}{469\ W.}$, dated 16th February 1889.)

(True Extract.)

(Signed) H. R. MEAD, Colonel, R.E.,
Ag. Secretary to Govt., P.W.D.

To the Chairman, Madras Harbour Trust Board.
„ Marine Department.

Exd. A. D. Xavier.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated February, 16th. 658W

Recd. Encl.

G.O., 16th Feb. 1889, No. 469 W.

FEBRUARY.

Madras Harbour Works

Progress report of the — for November 1888, ordered to be forwarded to the Secretary of State.

Marine Department. 658/5

CHIEF SECRETARIAT, MADRAS.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following paper :—

Memorandum from the Public Works Deptt. d/5 February 1889, No. 560 C, suggesting that the Chairman, Harbour Trust Board, may be instructed to submit to Government only one copy of the monthly progress report of the Harbour Works, and to forward it with statement of expenditure for the previous month and plan in duplicate direct to that Department.

× Put up with cl. 1422 Cont. 13/2/89

Papers sent to Hon

Order, 13 February 1889, No. 59

Ordered accordingly.

True Extract

Asstt Secretary.

To

The Public Works Department,
" Chairman, Harbour Trust Board.

X/4 S. D.

658/6

PWC No 1485

[6]

Govt. of {188} Madras.

To

The PW Dept.

SECRETARY TO GOVERNMENT. 14 FEB. 89 P.W. DEPARTMENT, MADRAS.

14.2.89

Proceedings, dated 13 — 2 — 188 9
No. 59

Subject.

Ordering that only one copy of the monthly progress report of the Harbour works be submitted to Govt.

B. No 478 dt 16 Feby 89

B/ Recorded.

Recorded

WCM 16.2.89

16/2/89

Fr 25/2 Sr 20/2

65/1

110

Harbour Trust Board Office,

Madras, 1st March 1889.

No 821

From

R. W. Barlow Esquire C.S.

CHAIRMAN, HARBOUR TRUST BOARD,

Madras,

To

Colonel H. R. Mead, R.E.,

Ag: ~~CHIEF~~ SECRETARY TO GOVERNMENT,

Public Works ~~Marine~~ Department.

Sir,

I have the honor to submit for the information of Government, in accordance to G.O. No. 59 dated 13th February 1889, copy of a letter from the Board's Engineer No. 1509 dated 23rd February 1889, reporting upon the Progress made upon the Madras Harbour Works during the month of December 1888, with a Statement of Expenditure and tracing in Duplicate.

I have the honor to be
Sir
Your Most obedt. Servant
R W Barlow
Chairman
Harbour Trust Board

Rec

9/85

G.O. 469 Wa/16-2-89
478 Wa/16-2-89

PWC No 2050

MARINE DEPARTMENT.

From

THE CHAIRMAN,

HARBOUR TRUST BOARD,

Madras,

To

THE ~~CHIEF~~ Ag SECRETARY TO GOVERNMENT,

Public Works ~~Marine~~ *Department.*

Dated 1 } March 1889.
Received 2 }

SECRETARY TO GOVERNMENT -2 MAR 89 P.W. DEPARTMENT, MADRAS.

ENCLOSURE.

No. 821

Enclosures 3 (+ 1 plan in duplicate)

Subject.

Submitting for the information of Govt. Progress report upon the Madras Harbour for December 1888 with plans and statement of expenditure in duplicate

This must be put distributed & acknowledged by the 12th Mr

H.M. 2/3

Enclosure No. 1509. 658/9 2 SP

From

The Superintendent
Madras Harbour Works

To

The Chairman
Harbour Trust Board
Madras

Madras 23 February 1889.

Sir

Accompaniments
Statement of Expenditure (Triplicate)
Tracing — do —

I now have the honor to submit my report on the Progress made on the works during the month of December 1888, together with a return of Work and a tracing of the plan of the Harbour (submitted in triplicate) shewing the progress in red.

2. The statement of expenditure cannot be completed in time to accompany each report but will be submitted separately in future, and as early as possible.

3 There

3 There was nothing done at this arm beyond relaying a few rails which had been ripped up by the heavy seas during the monsoon, and thoroughly overhauling the Titan crane; after which, it was travelled out on the 19th to a point where additional Wavebreaker blocks were required to complete the necessary section

North Pier Works

4. The work of concrete Block making was carried on steadily throughout the month, with the exception of 4 days stoppages, which were unavoidable on account of rain and holidays

Concrete Blockmaking

5 257 large blocks were made, of which 136 were for the Wavebreaker, representing in all an outturn of 441 3/4 cubic yards of concrete

6. The total length of Wall built during the past working season received a capping of concrete just sufficient

South Pier Work Capping

sufficient to make the surface, enough to allow the Titan lines and all necessary rail roads to be built in concrete, so as to save the wear and ~~tear~~ tear of sleepers.

Superstructure

7 The above capping having had time to harden by the 21st the Titan crane was travelled over it and out to the extreme end of the Pier and on the 22nd of December turned into position for forward work, and the tank forming the 30 Ton balance weight was filled with sea water

8 On the 27 December 1888 block setting was commenced and by working through the Xmas holidays the Superstructure was advanced by 31 feet up to the evening of the 31st December

9. This progress must be taken as an additional length of pier built

to

e coming season progress, or of that made in any of the past years, as blocksetting has never before been attempted at an earlier date than the 18 of January

Pallaveram Quarries

10. The renewing of all necessary Railway lines at the Pallaveram Quarries and repairs to the damaged permanent way through rain and accumulation of silt was well supervised, which enabled Twenty Three trains being run during the month by which 4917 3/4 tons of chips were delivered at the Crushers for Blockmaking

Stores from England

11. The following steamers arrived in December 1888 with stores for these Works viz.

By the S.S. Clan Macarthur with 24 chilled cast Iron Wheels for Trollies

" " S.S. "Pundua" with 999 casks containing 178 tons of Portland cement also one case hand and cross cut saws. Three cases screw augers, One case Brass screws, one case wood screws, one case coach screws. Three reels, bolts and nuts. Twenty drums Linseed oil and twenty kegs of Chocolate Paint

By the S.S. India with 961 casks containing 172 4/5 tons of Portland cement

Stores

Local Supply

12 The Contractor M. C. Ragava Chary delivered 392 hard wood sleepers of which 16 were for the Quarries

---

Return of Work for December 1888

Railway Lines

The lines at the Beach and Quarries

Inwards were kept in repair during the month 1172 Rg ft new roads and a new crossing were used in renewing and extending lines. 408 Rg ft Tilian road 555½ Rg ft broad gauge permanent line 299 Rg. ft temporary broad gauge line and 336 Rg ft meter gauge single lines were laid on the S. Pier and 573 Rg ft of broad gauge line was taken up on the sand road

Twenty Three trains worked during the month bringing stone from Pallaveram — Inwards

Rubble. None received since 30 November 1888

Chips { Total quantity received up to 31st December 1888 .. 122796 3/4
— do — 30 Novr 1888 .. 117879
Received in Decr 4917 3/4

Ballast. None received

North Pier, Surf blank. Nothing done since 30th November 1888.

— Do Rubble Base } — do — 30 April 1887
— Do Superstructure }

— Do Supplementary works — do — 29 February 1888

— Do Capping — do — 30 November 1888

South Pier, Surf blank — do — 30 April 1888

— Do Rubble Base — do — 31 October 1888

— Do Superstructure.

	Nos	Cyds
Blocks set up to 31st December 1888 -	1233	20016 1/3
— Do — 30 September 1888 -	1187	19260 7/9
In December.	46	755 5/9

Rg. ft. of new wall built up to 31st December. 823

— Do — 30 September '88. 792

In December - 31

Total length of wall completed from F. 3210

— Do — G. 823

South Pier Supplementary Works. Nothing done since 31st Octr '88

— Do Capping — 8 Cyds Capping done.

— Do Cramps — Nothing done since 31st Octr '88

Protective Works — Nothing done.

Concrete Blocks

Description of Block	Made up to 30 Novr 1888	Made in December 1888	Made up to 31st Decr 1888	Placed in work up to 30 Novr '88	Placed in work up to 31 Decr '88	In Hand
old blocks	806	"	806	806	806	"
wave breaker blocks Superstructure	2790	136	2926	2266	2266	660
North Pier. Bottom blocks	227	"	227	108	108	119
— do Middle do	743	7	750	405	405	345
— do Top do	246	2	248	130	131	117
South Pier Bottom do	336	23	359	238	246	113
— do Middle do	939	70	1009	635	663	346
— do Top do	340	19	359	233	242	117
Special	71	"	71	71	71	"
Counterbalance	1	"	1	"	"	1

4,413 $\frac{15}{27}$ cubic yards of Concrete was made in the month, Blockmaking was suspended on the 4th and 14th on account of rain and on the 25th and 26th on account of holidays.

1,134 $\frac{3}{4}$ Tons was the balance of Cement in store at the end of the month.

14 Wave-breaker and 6 Superstructure blocks were transferred from North to South Pier and Stacked.

Tools and Plant

Stationary engine boiler. Stone crushers.

No. 1 and 2 donkey pumps brass bearings closed

No. 1. Two new keys fitted to eccentric and keep and set plates fitted and fixed.

No. 2. Shoot repaired and side wedge and set plates fixed.

No. 3. Side wedge and set plates fixed.

No. 4. Two new jaws and two side wedges fitted and fixed.

Concrete mixers.

No. 1. A new door catch fitted and brass bearings of pump closed and foot valve repaired.

No. 2. A new door catch fitted and a hammer supplied.

No. 4. A hammer supplied.

Nos. 5 and 6. Brass bearings closed and lined up.

No. 7. Brass bearings closed and lined up, a new pinion and intermediate spur wheel fitted.

No. 8. Brass bearings closed and lined up, a new pinion, intermediate spur wheel, and a new door catch fitted.

Elevators. Two of the Elevator Iron boxes were repaired.

Mixing Platform. No. 2. Crane Tie rods, chain and pall repaired.

Concrete Skips. Three wrot iron Concrete Skip boxes were repaired and issued.

Goliath Hydraulic Crane. A new wrot iron chimney was made fitted and painted.

No. 3. Manhole Cover to boiler repaired, three fire bars and a travelling wheel fixed and the Crane painted throughout.

Light Gantry Traveller.

No. 1 and 2. Light Traveller. The foot boards were renewed in teak timber.

Miscellaneous. Two Special brass nuts were made for Rivers air pump. Thirty Six bolts repaired and fifty cotters and twenty four eye bolts made for block frames. Six lewis wedges were made. Four parah measures completed. Sets of two 3/8", two 1/2", one 3/4" and 5/8" dies were made for the fitting Shop.

North Pier Titan. Three fire bars were made and crane thoroughly overhauled previous to being run out on the 19th December. It stood at 495' from Bat the end of the month.

South Pier Titan. This crane was painted throughout. Twenty four new bolts made for ballast tank, the Salt water pump was repaired, a new chain was made for

for the Divers pump bob. Three new wheels were fitted to the traverser and the planking partially renewed. The titan was taken out on the 21st and turned into position for setting blocks on the 22d December. It stood at the termination of the new work at the end of the month.

No 5 — A tail board hinge fitted and repaired. Sand Wagon

Nos 6 and 11 — Painted and overhauled. New Iron work for two Concrete Skip trucks was made and fitted Concrete Skip trucks

Harbour Trust Board.

100 feet in length for the half width, of the pier timber work renewed and completed. Iron Pier Repairs

Two Cast Iron brackets and lamps were fitted to the North and South Good Shed, Seven lamp posts with lanterns were fixed about the Iron Pier. Beach Improvements

An entrance north of the pier was made and a double gate fixed; with a level crossing leading to the Coal yard. Harbour Trust Boundary Fence

A turntable to connect the Iron Pier with the Madras Railway Engineer's Department was well in hand.

Forty eight palmyrah breaks were made for the Iron Pier trucks.

No 10 B Portable crane was undergoing repairs.

I have the honor to be
Sir
Your Most obedt. Servant
(Signed) A. Lee Pogson
Engineer Harbour Trust Board

HARBOUR TRUST BOARD. 1 MAR 33 MADRAS.

(True copy)

C. Pinsent
Secretary, Harbour Trust Board

658/14

No 658 W

B.T. civil works

PUBLIC WORKS DEPARTMENT.

7P

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 5 March/89

READ the following

From the Chairman to H.T. Bd. No 821 d/ 1.3.89

Chairman to H.T. Bd
Marine Dept
Recd 13/3/89

Recd 3 mar

P.G. No 658 W dy 5 March/89

Their report will be forwarded to the Secy of State for India.

P.G. No 658 W dy 5 March/89

To the Chairman Harbour Trust Board.

My Lord,

In continuation of our despatch No 6/469 W dy 16 February 1889, we have the honour to forward, for your Lordship's information, the progress report of the Madras Harbour Works for the month of

of December 1888, together with a statement of expenditure to date, & a plan showing the advance made during the month.

2/3/89

Resubmitted upon 6580 - Urban Dist. Electrical 5/3/89

4 m. 2/3

658/15

8

Govt. of Madras (1889)

PUBLIC WORKS.

Dated

Recd. Encl.

G.O., 5 Mar 1889 No. 658W

9/658W

Mr Hawks

Perhaps reports of the - for Bridges ordered to be forwarded to the Secy of State.

20575

Mr Hawks

Forward Perhaps reporting the - for bridges.

(15)

7/3. 273