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REPORT ON THE OYSTER FISHERIES OF MORETON BAY AND
GREAT SANDY ISLAND STRAIT.

Presented to both Houses of Parliament by Command.

Department of Ports and Harbours,
Brisbane, 12th August, 1889.

SIR,—I have the honour to enclose Report upon the Oyster Fisheries of Moreton Bay and Great Sandy Island Strait, prepared by Mr. Fison and Mr. Boulton, the Inspectors.

I have, &c.,

G. P. HEATH, Commander R.N.,
Portmaster.

The Honourable The Colonial Treasurer.

REPORT OF OYSTER FISHERIES OF MORETON BAY.

Brisbane, August, 1889.

SIR,—In accordance with your instructions, I have the honour to submit the following Report concerning the Oyster Fisheries of the Moreton District, extending from Point Danger on the south to Laguna Bay on the north:—

The sub-inspectors at present acting are—

MORETON BAY, NORTH—Mr. Tripconny;
" " CENTRAL—Mr. Wills;
" " SOUTH—Mr. Easton, Mr. Atkin;
MORETON BAY—Mr. Griffin.

Dredge Sections.

Both in Moreton Bay and New South Wales the laying down of cultivation in deep water dredge sections has been almost entirely discontinued, as the result has almost invariably been loss of time and money, the non-success being due, no doubt—among other causes—to the difference of salinity in the water to which the young oysters are brought. Such being the case, it was considered wiser to let the dredge sections which became vacant by effluxion of time await the natural increase, than to immediately re-lease them. It was therefore not until December last that some were sold after remaining vacant for more than twelve months.

The majority of the dredge sections are now under lease, and the following are those which are now being dredged:—

In the South, No. 3, held by the Moreton Bay Oyster Company.

" " No. 4, held by Potts, Morehead, and Co.

In the North, Nos. 32 and 33, Bribie Channel, held by the Moreton Bay Oyster Company.

The others being held by the lessees awaiting natural increase.

No. 3 is being worked from cultivation from the Amity Banks, laid down some two years ago.

The proceeds from No. 4 are due to the wonderful fall of spat after the flood of January, 1887, which is also the case with regard to Nos. 32 and 33.

With reference to those not being worked: On Nos. 9, 10, and 10A, a deposit of young oysters has been found, but they are not so well advanced to maturity as those in No. 4, which seems to be more favourably situated for growth and fattening purposes.

Since the flood of 1887, the natural enemies of the oyster—viz., star-fishes, sea-eggs, and borers—do not appear to have been quite so numerous.

Banks.

For the purpose of noting any changes caused by the floods of July last, I, in company with Mr. Sub-inspector Griffin, recently visited the southern portion of the Bay, where we found that but little damage had been done by the deposit of mud or sanding up of the banks. No fall of spat has, however, yet been observed, which is probably owing to the fact that the flood occurred in winter.

The centrally situated banks show but little increase this year, a fact which is, perhaps, due to the banks being sanded up, owing to the washing away of Amity Point. The banks held respectively by Messrs. Moore and Collin, of Redland Bay, have improved, but not to any very great extent.

The enormous deposit of spat mentioned in my last report as having been noticed in Redland Bay has come to nothing, and the same might be said with reference to that in Deception Bay.

On some banks between Pat's Point and Stradbroke, where a large fall of spat took place during the 1877 flood, fat oysters of marketable size have been obtained, and young brood removed from the same banks to wired enclosures in an inlet north of Currigee have done exceptionally well. Large quantities of oyster shells collected in Brisbane were laid down in Ninghi Creek and Bribie Passage by the Moreton Bay Oyster Company just before the oysters had spat, with very encouraging results.

During the summer months, and especially during showery weather, it has been found that with oysters, say four or five years old, a fall of spat may be expected, if the oysters are removed to a favourable position, where the density of the salt water is less than that from which they have been brought, suitable provision being made for the spat to adhere to, by laying down oyster-shells, sticks, stones, or tiles.

Among the conditions which require to be known and acted upon for the successful cultivation of the oyster in Moreton Bay, the following may be summarised as the principal:—

1. A knowledge of the different saline densities at various depths and time of tide.
2. The currents formed at half flood-tide, which is supposed to be the most favourable spatting time.
3. The proper time to lay down cultivators for the catchment of spat, so that they may not be liable to a growth of barnacles or seaweed before the spat adheres.
4. Protection from the sun's rays, star-fish, borers or whelk-tingle, sea-eggs, crabs, birds, and fish.
5. Also, a knowledge of the different mineral compositions of the ground on which the culture is laid, and the description of sea-grass or sea-weed that grows on it, and which in some cases is of a poisonous character.

These conditions, which in Moreton Bay have been found to vary in different localities situated only a few miles apart, can only be found out by practical experiment and an expenditure of time and hard cash. Many speculative persons, with a few hundred pounds to invest, have had their attention drawn to the oyster industry as a means of making large profits, but as these people were totally unacquainted with the various risks and failures mentioned above, and which are inseparable from such an undertaking, I considered it best to dissuade them from their purpose. A man, however, who is willing with his family to live in solitude amongst the islands of the Bay, and personally supervise the working of his banks, has a chance of making a fairly comfortable living, while the large companies continually spending money in experiments have to trust in a great measure to the honesty and industry of their employés for a fair return.

Information has been received that along the coast of New South Wales, between Port Stephens and Kiama, a small worm has caused great havoc amongst the oysters, and during the recent drought I noticed in the southern portion of the Bay a few shells, the oysters of which had probably been destroyed by the same cause.

The unlicensed banks and Government reserves in the Bay have been subjected to much misuse by persons who, not content with satisfying their appetites, have taken away the oysters for the purpose of selling them. A case was also successfully proved at the police court the other day, where a licensed oysterman was fined for stealing oysters from an unlicensed bank and laying them down as cultivation on his own banks.

The following reserves for camping, for the use of licensees of oyster banks, were gazetted on the 13th April last, and will supply a long-felt want:—

On Stradbroke Island.

- No. 1.—Twenty-eight acres; at Currigee, on The Broadwater.
- No. 2.—Twelve acres; at Couran, on The Broadwater.
- No. 3.—Five acres; about midway between Couran and Tuleen, on one of the channels leading into Canaipa Passage.
- No. 4.—Five acres; at Koureyabba, on Canaipa Passage, about one mile south of Mount Scott.
- No. 5.—Five acres; at Canaipa, opposite the north-east end of Russell Island.
- No. 6.—Five acres; at Canalpin, opposite the northern end of Macleay Island.
- No. 7.—Five acres; at Wallen Wallen, about three miles south of Dunwich.
- No. 8.—Five acres; at Big Hill (or Capembah), about two miles north of Dunwich, and adjoining the southern boundary of portion 1, parish of Stradbroke.
- No. 9.—Five acres; at Wallum, about midway between Chiggil Chiggil and Amity Point.

On Moreton Island.

- No. 10.—Five acres; at Umbounba, about one and a-half mile north from the south end of Moreton Island.
- No. 11.—Five acres; at Kounungai, about five miles north of the south end of Moreton Island.

On Bribie Island.

(Pumice-stone Channel.)

- No. 12.—Five acres; at a point on the west shore of Bribie Island, opposite the mouth of Glass Mountain Creek.
- No. 13.—Five acres; at Woorim, on the west shore of Bribie Island, about two miles south of Caloundra.
- No. 14.—Five acres; at the northern end of Bribie Island.

A number of oystermen with their families having settled at Currigee, it is proposed to bring the matter of the establishment of a school at that place before the notice of the Education Department.

The revenue for the past year has been increased by the proceeds from the sale of dredge sections in December last, but at prices which I am afraid will leave but a small margin for profit.

Oysters in large quantities have been found in The Narrows between Port Curtis and Keppel Bay, and four banks have been licensed to Mr. J. G. Pattison, of Rockhampton.

The Moreton Bay Oyster Company have also taken up banks in Rodds Harbour, from which they remove cultivation to their banks in Moreton Bay.

The stocks of marketable oysters in the hands of licensed oystermen are so far in excess of the Southern markets, that shipments in any large quantities above the present export would be injudicious, and almost certain to entail loss.

I am of opinion that the time has arrived when the system of forwarding oysters South in bags should be discontinued, and fat young oysters should be packed in small cases, to relieve the pressure on their tender shells.

The working of the Fisheries Act, which is also carried out by this Department, appears to have given satisfaction.

Advantage was taken of the powers given in the eighteenth section of the Act to close the Brisbane River for net fishing, from Doughboy Creek upwards; also the Canaipa Channel, Swan Bay, Nerang Creek, and the foreshore of Sandgate from Cabbage-tree Creek to Brighton. It is the general opinion that the plentiful supply of fish obtainable last summer in the upper and town reaches of the Brisbane River was, in a great measure, due to the fact that the river had been closed for net fishing since November, 1887.

In consequence of complaints being received that crabs were getting scarce in several of the creeks and rivers of Moreton Bay, the taking of them was prohibited for twelve months, which expired on the 31st ultimo. The months during which crab-fishing should be prohibited is at present uncertain.

During the month of June large sea prawns made their appearance in vast shoals in the lower reaches of the river, and advice having been received that certain Chinese fishermen were catching them in large quantities with long small-meshed nets on the morning of 26th of April last, I seized five boats and nine long nets (valued at £100) which were being illegally used.

A small herd of dugong are sometimes seen on the west side of Moreton Island. These are also protected under the same clause.

CECIL S. FISON,
Inspector.

REPORT OF OYSTER FISHERIES, SANDY STRAIT.

Harbour Master's Office,
Maryborough, 31st August, 1889.

SIR,—In accordance with your instructions, I have the honour to submit the following report, in *re* the Oyster Fisheries of this Port. Beginning at the head of Tin Can Inlet, the extreme southern limit, thence to Inskip Point.

Sections 1 and 2. There has been a considerable quantity of new ground taken up, portions of which, previous to this year, have never been known to carry an oyster. There has been a considerable amount of cultivation laid down in these sections, in all cases with very good results; there has also been a very heavy fall of spat, which must have taken place at different periods since the floods of 1887, for I have noticed young oysters of at least four or five different ages, the oldest not more than about twelve months, all on the one bank, which I think shows that there can be no regular period for oysters to spat.

Sections 3 and 4, extending from Inskip Point to Moonboom Island, have also improved considerably, both from the amount of cultivation carried on and the heavy fall of spat, which has been nearly general throughout. In Section 4, the Moreton Bay Oyster Company hold seven banks, all connected with each other, and extending for upwards of three miles in length. This ground is situated in the centre of Great Sandy Strait, and is at present used for cultivating the Company's Moreton Bay banks; but I am of opinion that with the amount of really good suitable ground for the purpose adjoining, were these banks carefully attended to and cultivated, they could be made the pick of the whole district.

In Sections 5 and 6, extending from Moonboom Island to the River Heads, also inside the River Heads and Susan River, the banks have all improved in a more or less degree; several new banks have also been taken up.

Sections 7 and 8, comprising all banks in Hervey Bay, I have not yet finished marking off, having been employed in placing piles and light stands, &c., in positions for the lighting of Great Sandy Strait, and marking and beaconing new channel across Wide Bay Bar, so that I have had very little time to spare for this work; but from the appearance of those banks that I have marked off, and others that I have examined, I have no hesitation in stating that these sections contain some very valuable banks. The different licensees also report a marked improvement.

Section 9 includes all the banks in the Burrum River, the most northern limit of our district, the licensees of which also report considerable improvement.

Licenses have been issued from July 1, 1888, to June 30, 1889, for 167 oyster banks, 37 boats, and 77 men—£923; as against 150 banks, 40 boats, and 73 men—£836 10s. of previous year (*vide* schedule appended). This increase, I feel confident, would have been greater had I been able to finish marking off the banks in sections 7 and 8, for several of which, I have no doubt, extra licenses will be required, as the licensees, when pegging off the ground before survey, invariably err on the large side, for which, of course, they cannot be blamed.

Cultivation.—During the past year oyster cultivation has been carried on to a considerable extent. Messrs. Leftwich and Sons having alone laid down 6,000 bags, which they report as improving very rapidly. Mr. G. H. Clarke has laid down over 1,100 bags, which he also reports as coming on satisfactorily.

The other licensees have likewise set apart portions of their property for this purpose, as they one and all seem to have arrived at the same conclusion—viz., that it is no use sending poor oysters to the southern markets, and that it is to their own interest to improve and cultivate their banks, so that I have very little trouble in seeing that the provisions of "*The Oyster Act*" are observed.

Dredge Banks.—With reference to dredge banks, I may state that at present but one exists in this district, situated at the mouth of the Susan River, and held by Messrs. Leftwich and Sons, but has not been worked during the past four years.

Exportation.—Messrs. Leftwich and Sons have shipped to the different markets during the past twelve months 2,763 bags of oysters; G. H. Clarke, 1,300 bags; and H. Nowitski, 900 bags; the remaining licensees about 3,000 bags between them—making upwards of 8,000 bags. Large quantities of oysters for cultivation purposes in Moreton Bay have also been shipped.

In

In conclusion, I am pleased to state that the whole business throughout is steadily increasing, larger boats being employed, and more cultivation going on; and I have no doubt but that in a few years hence the revenue received from this industry will be considerably increased.

Fisheries.—Fishing licenses have been issued at this port during the past year to twelve Europeans, five Chinamen, and two aboriginals; also seven boats.

There have been large quantities of mullet in this district during the season, which commences when the westerly winds set in—generally about the end of May, and ending about August—when they come close in to the shore to spawn. Crabs are also plentiful. I do not think that a close season for any kind of fish is at all necessary at this port, as there are so few persons engaged in the traffic.

I have, &c.,

The Portmaster, Brisbane.

EDWD. J. BOULT,
Inspector of Fisheries.

SCHEDULE.

LICENSES ISSUED AT MARYBOROUGH.

| | | June, 1885, to June, 1886. | | | | | | £ | s. |
|-----|----------------------|----------------------------|-----|-----|-----|-----|-----|------|----|
| 78 | Oyster Bank Licenses | ... | ... | ... | ... | ... | ... | 360 | 0 |
| 18 | Boat | ... | ... | ... | ... | ... | ... | 18 | 0 |
| 40 | Men's | ... | ... | ... | ... | ... | ... | 20 | 0 |
| | | | | | | | | £398 | 0 |
| | | June, 1886, to June, 1887. | | | | | | £ | s. |
| 140 | Oyster Bank Licenses | ... | ... | ... | ... | ... | ... | 700 | 0 |
| 30 | Boat | ... | ... | ... | ... | ... | ... | 30 | 0 |
| 70 | Men's | ... | ... | ... | ... | ... | ... | 35 | 0 |
| | | | | | | | | £765 | 0 |
| | | June, 1887, to June, 1888. | | | | | | £ | s. |
| 150 | Oyster Bank Licenses | ... | ... | ... | ... | ... | ... | 750 | 0 |
| 50 | Boat | ... | ... | ... | ... | ... | ... | 50 | 0 |
| 73 | Men's | ... | ... | ... | ... | ... | ... | 36 | 10 |
| | | | | | | | | £836 | 10 |
| | | June, 1888, to June, 1889. | | | | | | £ | s. |
| 167 | Oyster Bank Licenses | ... | ... | ... | ... | ... | ... | 835 | 0 |
| 37 | Boat | ... | ... | ... | ... | ... | ... | 49 | 10 |
| 77 | Men's | ... | ... | ... | ... | ... | ... | 38 | 10 |
| | | | | | | | | £923 | 0 |

I have, &c.,

The Portmaster, Brisbane.

EDWD. J. BOULT,
Inspector of Oyster Fisheries.

RETURN relative to the QUANTITY and VALUE of OYSTERS EXPORTED from BRISBANE and MARYBOROUGH.
BRISBANE.

| Year. | No. of Bags. | Value. | Year. | No. of Bags. | Value. |
|-------|--------------|---------|-------------------|--------------|---------|
| 1870 | 4,523 | £ 1,644 | 1880 | 5,293 | £ 3,475 |
| 1871 | 5,127 | 1,625 | 1881 | 7,559 | 6,153 |
| 1872 | 4,060 | 1,427 | 1882 | 9,953 | 9,074 |
| 1873 | 3,086 | 768 | 1883 | 7,878 | 7,342 |
| 1874 | 3,912 | 1,704 | 1884 | 8,256 | 8,475 |
| 1875 | 5,349 | 2,622 | 1885 | 8,076 | 8,094 |
| 1876 | 6,648 | 2,792 | 1886 | 7,512 | 8,533 |
| 1877 | 2,736 | 1,639 | 1887 | 7,167 | 8,240 |
| 1878 | 1,790 | 1,227 | 1888 | 6,191 | 7,616 |
| 1879 | 3,793 | 2,729 | 1889 (six months) | 3,183 | 5,304 |

MARYBOROUGH.

| Year. | No. of Bags. | Value. | Year. | No. of Bags. | Value. |
|-------|--------------|--------|-------------------|--------------|--------|
| 1887 | 1,692 | £1,967 | 1889 (six months) | 1,530 | £2,242 |
| 1888 | 1,990 | £3,326 | | | |

RETURN relative to BANKS, MORETON BAY.

| Date. | No. Worked in Each Year. | Total Marked Off. | Date. | No. Worked in Each Year. | Total Marked Off. |
|---------------------|--------------------------|-------------------|---------------------|--------------------------|-------------------|
| 31st December, 1876 | 85 | 85 | 31st December, 1883 | 75 | 140 |
| " " 1877 | 70 | 85 | " " 1884 | 102 | 164 |
| " " 1878 | 60 | 89 | " " 1885 | 175 | 221 |
| " " 1879 | 30 | 96 | " " 1886 | 180 | 243 |
| " " 1880 | 36 | 104 | " " 1887 | 205 | 268 |
| " " 1881 | 40 | 117 | " " 1888 | 262 | 343 |
| " " 1882 | 40 | 126 | 30th June, 1889 | 263 | 347 |

Fisheries Acts of 1877 and 1887.

RETURN relative to FISHERMEN Licensed at BRISBANE from 1st January, 1881, to 31st August, 1889.

| Nationality. | 1881. | | 1882. | | 1883. | | 1884. | | 1885. | | 1886. | | 1887. | | 1888. | | To 31 Aug., 1889. | |
|-------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------------------------|--------|
| | Men. | Boats. | Men. | Boats. | Men. | Boats. | Men. | Boats. | Men. | Boats. | Men. | Boats. | Men. | Boats. | Men. | Boats. | Men. | Boats. |
| Europeans and others | 22 | 19 | 35 | 21 | 33 | 18 | 54 | 29 | 58 | 34 | 93 | 44 | 85 | 38 | 76 | 42 | 82 | 49 |
| Chinese ... | 19 | 7 | 14 | 7 | 13 | 6 | 30 | 12 | 34 | 17 | 38 | 18 | 40 | 20 | 31 | 16 | 15 | 9 |
| TOTALS... | 41 | 26 | 49 | 28 | 46 | 24 | 84 | 41 | 92 | 51 | 131 | 62 | 125 | 58 | 107 | 58 | 97 | 58 |

STATEMENT showing the AMOUNT of REVENUE RECEIVED under "The Oyster Act of 1886" and "Fisheries Act of 1887," for the YEARS 1888 and 1889, with EXPENDITURE for the same period.

| | RECEIPTS. | | | EXPENDITURE. | |
|-----------------------------------|------------|--------------------|-----------------------------------|--------------|------------|
| | 1888. | 1889 (to date). | | 1888. | 1889. |
| | £ s. d. | £ s. d. | | £ s. d. | £ s. d. |
| OYSTER ACT— | | | <i>Moreton Bay—</i> | | |
| <i>Moreton Bay—</i> | | | Inspector's Salary ... | 100 0 0 | 100 0 0 |
| Licenses, &c. ... | 1,331 5 6 | 1,332 5 0 | Engineer, Steam Launch | 168 0 0 | 168 0 0 |
| Leases ... | 874 10 0 | 1,160 0 0 | Contingencies ... | 228 13 11 | 261 8 0 |
| <i>Great Sandy Island Strait—</i> | | | <i>Great Sandy Island Strait—</i> | | |
| Licenses, &c. ... | 757 5 0 | 810 0 0 | Inspector's Salary ... | Nil. | 50 0 0 |
| <i>Rockhampton—</i> | | | Contingencies ... | 71 6 1 | 35 5 9 |
| Licenses, &c. ... | Nil. | 41 5 0 | <i>Northern Ports ...</i> | Nil. | 3 6 3 |
| <i>Gladstone—</i> | | | | | |
| Licenses, &c. ... | Nil. | 5 0 0 | | | |
| <i>Mackay and Townsville—</i> | | | | | |
| Licenses, &c. ... | 10 10 0 | | | | |
| | | | | £568 0 0 | £618 0 0 |
| FISHERIES ACT— | | | Excess of Revenue over | 2,734 0 6 | 2,961 9 6 |
| Licenses, Brisbane ... | 106 10 0 | 107 7 0 | Expenditure | | |
| " Northern Ports | 222 0 0 | 123 12 6 | | | |
| | £3,302 0 6 | £3,579 9 6 | | £3,302 0 6 | £3,579 9 6 |

Price 5d.]

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TABLE I
Summary of the results of the tests conducted on the various types of concrete beams under consideration.

| Beam No. | Span (ft.) | Supports (ft.) | Load (kips) | Deflection (in.) | Crack Pattern | Remarks |
|----------|------------|----------------|-------------|------------------|---------------|---------------------|
| 1 | 10 | 5 | 10 | 0.5 | None | Control beam |
| 2 | 10 | 5 | 10 | 0.8 | Small | Reinforced concrete |
| 3 | 10 | 5 | 10 | 1.2 | Medium | Reinforced concrete |
| 4 | 10 | 5 | 10 | 1.8 | Large | Reinforced concrete |
| 5 | 10 | 5 | 10 | 2.5 | Extensive | Reinforced concrete |
| 6 | 10 | 5 | 10 | 3.2 | Extensive | Reinforced concrete |
| 7 | 10 | 5 | 10 | 4.0 | Extensive | Reinforced concrete |
| 8 | 10 | 5 | 10 | 4.8 | Extensive | Reinforced concrete |
| 9 | 10 | 5 | 10 | 5.5 | Extensive | Reinforced concrete |
| 10 | 10 | 5 | 10 | 6.2 | Extensive | Reinforced concrete |
| 11 | 10 | 5 | 10 | 7.0 | Extensive | Reinforced concrete |
| 12 | 10 | 5 | 10 | 7.8 | Extensive | Reinforced concrete |
| 13 | 10 | 5 | 10 | 8.5 | Extensive | Reinforced concrete |
| 14 | 10 | 5 | 10 | 9.2 | Extensive | Reinforced concrete |
| 15 | 10 | 5 | 10 | 10.0 | Extensive | Reinforced concrete |

TABLE II
Summary of the results of the tests conducted on the various types of concrete beams under consideration.

| Beam No. | Span (ft.) | Supports (ft.) | Load (kips) | Deflection (in.) | Crack Pattern | Remarks |
|----------|------------|----------------|-------------|------------------|---------------|---------------------|
| 16 | 10 | 5 | 10 | 1.0 | Small | Reinforced concrete |
| 17 | 10 | 5 | 10 | 1.5 | Medium | Reinforced concrete |
| 18 | 10 | 5 | 10 | 2.0 | Medium | Reinforced concrete |
| 19 | 10 | 5 | 10 | 2.5 | Medium | Reinforced concrete |
| 20 | 10 | 5 | 10 | 3.0 | Medium | Reinforced concrete |
| 21 | 10 | 5 | 10 | 3.5 | Medium | Reinforced concrete |
| 22 | 10 | 5 | 10 | 4.0 | Medium | Reinforced concrete |
| 23 | 10 | 5 | 10 | 4.5 | Medium | Reinforced concrete |
| 24 | 10 | 5 | 10 | 5.0 | Medium | Reinforced concrete |
| 25 | 10 | 5 | 10 | 5.5 | Medium | Reinforced concrete |
| 26 | 10 | 5 | 10 | 6.0 | Medium | Reinforced concrete |
| 27 | 10 | 5 | 10 | 6.5 | Medium | Reinforced concrete |
| 28 | 10 | 5 | 10 | 7.0 | Medium | Reinforced concrete |
| 29 | 10 | 5 | 10 | 7.5 | Medium | Reinforced concrete |
| 30 | 10 | 5 | 10 | 8.0 | Medium | Reinforced concrete |
| 31 | 10 | 5 | 10 | 8.5 | Medium | Reinforced concrete |
| 32 | 10 | 5 | 10 | 9.0 | Medium | Reinforced concrete |
| 33 | 10 | 5 | 10 | 9.5 | Medium | Reinforced concrete |
| 34 | 10 | 5 | 10 | 10.0 | Medium | Reinforced concrete |
| 35 | 10 | 5 | 10 | 10.5 | Medium | Reinforced concrete |
| 36 | 10 | 5 | 10 | 11.0 | Medium | Reinforced concrete |
| 37 | 10 | 5 | 10 | 11.5 | Medium | Reinforced concrete |
| 38 | 10 | 5 | 10 | 12.0 | Medium | Reinforced concrete |
| 39 | 10 | 5 | 10 | 12.5 | Medium | Reinforced concrete |
| 40 | 10 | 5 | 10 | 13.0 | Medium | Reinforced concrete |
| 41 | 10 | 5 | 10 | 13.5 | Medium | Reinforced concrete |
| 42 | 10 | 5 | 10 | 14.0 | Medium | Reinforced concrete |
| 43 | 10 | 5 | 10 | 14.5 | Medium | Reinforced concrete |
| 44 | 10 | 5 | 10 | 15.0 | Medium | Reinforced concrete |
| 45 | 10 | 5 | 10 | 15.5 | Medium | Reinforced concrete |
| 46 | 10 | 5 | 10 | 16.0 | Medium | Reinforced concrete |
| 47 | 10 | 5 | 10 | 16.5 | Medium | Reinforced concrete |
| 48 | 10 | 5 | 10 | 17.0 | Medium | Reinforced concrete |
| 49 | 10 | 5 | 10 | 17.5 | Medium | Reinforced concrete |
| 50 | 10 | 5 | 10 | 18.0 | Medium | Reinforced concrete |

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