

HEALTH DEPARTMENT
FIRST
ANNUAL REPORT
1888
CITY OF SAN DIEGO.



OFFICIAL  COPY.

Presented to the City Council
and ordered filed.

January 22nd, 1887.

J. A. Thomas
City Clerk.

FIRST
ANNUAL REPORT
OF THE
BOARD OF HEALTH
OF THE
CITY OF SAN DIEGO,
FOR THE
YEAR ENDING DECEMBER 31, 1888.

SAN DIEGO, CAL.:
C. J. HILDRETH, PRINTER, FIFTH STREET, NEAR E.
1889

San Diego, January 5, 1889.

To the Honorable the Mayor and City Council :

The Board of Health herewith respectfully submits to you its First Annual Report, being for the year ending December 31, 1888.

By order of the Board.

THOS. L. MAGEE, M.D.,
Secretary.

OFFICERS AND MEMBERS
OF THE
BOARD OF HEALTH OF THE CITY OF SAN DIEGO.

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GEO. F. KENDALL, PLUMBING INSPECTOR.
JOHN McALLISTER, CAPTAIN CITY SCOW.
JOHN BARTON, DUMP MASTER.

REPORT OF HEALTH OFFICER.

Office of the Board of Health,
San Diego, January 1, 1889.

TO THE HONORABLE THE BOARD OF HEALTH :

Gentlemen : I have the honor of formally submitting the following report of the sanitary interests of the city of San Diego, as supervised by me during the time I have served as your executive officer. This period embraces an interval of nearly seven months, prior to which there were no records kept concerning this work. My annual report, therefore, will cover a period of but six months, in order that the report of the Health Department may be made to conform with the fiscal year of the city of San Diego.

It is gratifying to be able, at the close of the year, to report a marked and growing interest on the part of our people in the sanitary affairs of the city ; and it is but just that I should make public acknowledgment of the fact that the in-

creased interest in this work which has recently manifested itself in San Diego is, in a great measure, due to the action of the press of this city in disseminating information concerning the efforts of the Board of Health in this behalf, and editorially educating the masses to a higher appreciation of the importance of a more perfect sanitary condition of our city, as well as to encourage a more general and earnest co-operation on the part of our people in this good work.

VITAL STATISTICS.

Under our present system, no deaths or still-births can occur within the city limits without this office being immediately notified by a certificate, signed by the proper authorities, viz: the attending physician, as to the cause of death, and the undertaker, as to place and time of interment. The law in this respect has, by the strict rules of this office and the co-operation of the medical profession and the undertakers, been faithfully obeyed, and all certificates of death and still-birth have been properly recorded, and are thus preserved in a convenient form for future reference. Every death and every still-birth that has occurred in this city during the last six months, together with the cause of death, age, sex and nationality, has been correctly reported in our monthly mortuary

statement, except in the report for the month of November, in which two deaths were omitted that should have appeared. This omission was due to the fact that the deaths occurred on the last day of the month, and were not reported to the office until after our report had gone to press. They appear, however, in these tables, and are included throughout in this report.

BIRTHS AND STILL-BIRTHS.

It is almost impossible to arrive at an absolutely correct report of the number of births and still-births, owing to failure on the part of some the medical practitioners to report all cases. I have endeavored to impress upon their minds the importance of full and complete records of the vital statistics of the city and state, and have prepared blank forms for reports, with stubs for office record, which I have distributed to them, and I trust we shall be able in future to have these records accurately kept.

CONTAGIOUS DISEASES.

Under this head I have only to say that our city has, during the past six months, been entirely free from all contagious and infectious diseases. The climatic influences and the sanitary condi-

tions of our city do not admit of the origin or spread of such forms of sickness.

VACCINATION.

I found, upon investigation, that my predecessor, Dr. Northrup, had about a year ago made a thorough vaccination of the city, I discovered, however, that quite a number of people came into our city since that time who had not been vaccinated; and, in accordance with your instructions, I visited all the schools and vaccinated the pupils who had not recently been inoculated. I also advertised free vaccination for all other children who were not attending school, and a large number were vaccinated at the Health Office.

The last report of the California State Board of Health, a document which is not excelled by any report of a like character in the country, regards this subject as of such importance that it devotes nearly fifty pages to small-pox and vaccination alone; and Dr. Orme, President of the State Board of Health, in a private letter to me, bearing date December 26, 1888, says: "If we are not careful, we shall have small-pox all over this State soon. They have the disease at —, and our Los Angeles papers report the fact that one of our police officers last Saturday was removed to the pest-

house. Hope you will keep your city clear by timely vaccination," etc.

I think we cannot be too careful in the protection of our city against this loathsome disease ; and I recommend that, if it be not in violation of the law, the Board of Health enforce compulsory vaccination at such times as may be deemed necessary for the prevention of the inception of small-pox in this city.

FOOD.

I have given as much consideration to the investigation of our food as my time, opportunities and facilities would permit ; and from my observation and study of this branch of our work I am led to regard it as of special importance to the people of this city.

In the report of the State Board of Health of Massachusetts will be found important and reliable information on this subject. Professor Wood, in his analyses of foods in this report, gives the following facts in regard to adulteration : From 212 samples of vinegar, sold as cider vinegar, 129 samples were found not genuine. Out of 58 samples of butter, 13 were adulterated. Out of 19 samples of lard, 12 were adulterated. Out of 17 samples of olive oil, 11 were spurious. 32 samples of French canned vegetables were examined

with special reference to the presence of copper, and this impurity was detected in 22 cases. Alum was found in 21 cases of baking powder out of 29 examined. These are only a few specimens from the report, which says: "This percentage of adulterated samples is the lowest recorded yet for any one year."

If, then, in a state like Massachusetts, which stands at the head of states in these investigations, we find so large a percentage of adulterations, is it not essential that we adopt vigorous measures for the detection and suppression of adulterated foods and beverages in our city?

MILK.

I have personally inspected 11 dairies, supplying milk to this city, and the sanitary conditions in the majority of cases were only fairly good; while in a few instances the question of cleanliness and sanitary surroundings was almost wholly ignored. I failed to find a single dairy that was properly equipped and managed. This I attribute more to a lack of knowledge than to any intentional wrong on the part of the owners, as in most cases my instructions for proper sanitary regulations were kindly and gratefully received. As a rule, the cows were in good flesh, and with a few exceptions healthy. I found no cases where the

cows were fed on swill. The arrangement of the stalls, in most cases, was bad ; but overcrowding of cows was found in but 3 dairies. The water supply in every case was ample and good ; but in all the dairies I found that the milk was placed in covered cans, at too high a temperature ; thus entirely ignoring every sanitary precaution in this respect. Cows are milked in time only to allow the product to be hurried into close-covered cans, and rushed off for delivery, without first giving it time to cool, and customers have complained to me that their milk had a bad odor. I have examined a number of samples, and am inclined to believe that this odor is entirely due to the milk being closed up while still warm. I have explained to the dairymen that milk thus treated was dangerous, and that children using it were liable to serious bowel troubles. I have also given positive orders requiring the milk to stand uncovered until the proper temperature is obtained, and have drawn plans for a cooling apparatus that will be inexpensive to construct, and simple and easy to manage.

I have sent written instructions to all dairymen concerning the following requirements by the Board of Health :

1. Cows must be healthy.
2. Cows must not be overcrowded.

3. Cows must not be fed on fermented food.
4. Cows must be kept upon properly constructed floors and stalls, and at all times kept clean.
5. As to the proper method of cooling milk.
6. As to the proper care of milk cans.

MILK INSPECTION.

Owing to the limited force employed by the Health Department, I have been obliged to devote considerable time to detail work which properly belonged to the inspectors; consequently I have not been able to give that attention to the examination of milk and foods generally which I should otherwise have given to so important a subject. I have, however, procured the necessary apparatus for the inspection of milk, and shall in future give careful attention to and frequent examinations of the same.

MEAT INSPECTION.

I have strenuously endeavored to have all our slaughter-houses located at one place, in order that an inspector may be appointed to make a minute examination of each animal before and after it is slaughtered. No city can feel secure as long as there is no inspection of meat, by some person well advanced in veterinary science. It is estimated by competent medical authorities that

one-fourth of the deaths caused by consumption are in a great degree directly traceable to the use of meat affected with tuberculosis. The City Council should be urged to establish an abbatoir, and compel all slaughtering of animals to be done there, under the inspection of a competent veterinary surgeon, and in accordance with scientific principles.

CITY ANALYST AND MARKET INSPECTOR.

Scientific investigation has proved that a large proportion of typhoid fevers and diarrhoeal diseases is due to impurities in our foods and beverages ; and statistics also show that a great number of fires are directly traceable to lamp explosions ; and that in those states where a standard test of oil has been adopted and maintained, proportionately fewer fires have occurred. Likewise, in those cities where it is known that a City Analyst has been employed for the purpose of exposing and advertising all adulterated and spurious articles of food, and where a thorough system of analysis of foods and beverages has been adopted, the proportion of adulterated articles offered for sale has been greatly reduced. I therefore recommend that the city employ a competent Analyst and Food Inspector, to work under the direction of the Board of Health.

VENTILATION AND LIGHT IN BUILDINGS.

Many of the older buildings in this city were, during the "boom," enlarged by the addition of more rooms and extra stories, without the least regard to either light or ventilation ; and, in consequence, we have to-day many buildings that for habitation and architectural design are a disgrace to our city. Many cases of colds, coughs, lung diseases and even death were due to those dark, close, chilly and unhealthy rooms. Even some of the newer dwelling houses, I find, are lacking in window area and proper ventilating appliances ; and especially does this refer to the want of light and ventilation *under* the houses. It would seem that, in some cases, special efforts were made to close the house tightly underneath. It is important that the Health Department give careful consideration to this branch of sanitary work, and some of the buildings should be condemned as unfit for occupancy.

HOUSE DRAINAGE.

The "go as you please" manner in which the house drainage has been constructed prior to the time that the Board of Health has had control, has resulted in much scamped work and cheap material in our present drainage system.

The Health Department has been called upon to investigate and remedy many cases of bad drainage, some of which were really villainous, and could only result, if allowed to exist, in sickness and death to the occupants of the houses to which they belong, as well as to others living in the immediate vicinity. That much of this defective drainage still exists I do not hesitate to admit; and the only way by which these possible health and life-destroying influences can be properly dealt with, is first to discover and then to remedy them. This we are doing as rapidly as possible with our limited force; and, as this is of vital importance to the future prosperity of our city, I will recommend that your Honorable Board petition the Mayor and City Council to appoint an Inspector for the special purpose of examining that portion of our drainage system that was put in prior to the time when our rules regulating their construction were in force.

I would further recommend that your Honorable Board adopt a rule prohibiting all soil pipes under buildings, except in cases where it is not practicable to place them otherwise.

SOIL POLLUTION.

The consequences and prevention of soil con-

tamination have, in proportion to their importance, received less consideration perhaps by the masses than any other question with which sanitarians have to deal. In one of the tables of the Health Inspector's Report we find that a large amount of offal has been removed from this city during the last six months. The attention of the Health Office has been given, perhaps, more to the removal and suppression of filth deposits than to some other important matters which might seem to have been unduly neglected; but when we remember that communities have been depopulated on account of soil pollution, and when we consider that, while all other filthy, unsanitary conditions and disease-producing germs can be purified and destroyed; that the soil over which a city is built, when once contaminated with these life-destroying agencies, must remain unsafe and unfit for human occupancy, and that all those who dwell over such deposits will, sooner or later, fall victims of suffering and death to its slow and secret but certain destructive influences, the judiciousness of our course will be appreciated.

One of the most dangerous forms of soil pollution with which we have to contend is that of the unscientific and unsanitary construction and maintenance of cesspools and privy vaults that have existed throughout our city, and it is surpris-

ing to find that many of our intelligent people even to this day cling to these deceptive life-destroying pits and pools with a tenacity and zeal that I have labored hard to imitate in my endeavors for their removal.

Many old wells which were abandoned when the city was supplied with a general water works system have been converted into cesspools and garbage pits; these have been made the receptacle for every form of offal, such as privy soil, garbage, dead animals and decayed meat and vegetables; in some instances these wells have been made a community receptacle into which was dumped the refuse of all the families in the neighborhood. So convenient and inexpensive was this method for the disposal of offal, that when official notice for their immediate abatement was served, the owners, with tears in their eyes, pleaded for their continuance. You will, I know, be gratified to learn that a large majority of the worst of these cesspools, privy vaults and pits have been cleaned, disinfected, and properly filled with fresh earth.

There has also been shown an almost universal indifference to surface uncleanness. Generally, all family refuse has been permitted to lie around over premises for weeks and months decomposing, with the liquids soaking into the soil and producing the worst forms of unsanitary conditions.

To show the experience and observations of other sanitarians, I take occasion to publish, in this connection, an extract from Dr. Simon's article entitled "Filth Diseases and their Prevention":

"There are houses, there are groups of houses, there are whole villages, there are considerable sections of towns, there are even entire and not small towns, where general slovenliness in everything which relates to the removal of refuse matter—slovenliness which, in very many cases, amounts to utter bestiality of neglect—is the local habit; where, within or just outside of each house, or in spaces common to many houses, lies for an indefinite time, undergoing fetid decomposition, more or less of the putrefiable refuse which house-life, and some sorts of trade-life, produce; excrement of man and brute, and garbage of all sorts, and ponded slop-waters; sometimes lying bare on the common surface; sometimes unintentionally stored out of sight and recollection in drains or sewers which cannot carry them away; sometimes held in receptacles specially provided to favor accumulation, as privy pits and other cesspools for excrement and slop-water, and so-called dust-bins receiving kitchen refuse and other filth. And with this state of things, be it on large or small scale, two chief sorts of danger

to life arise: one, that volatile effluvia from the refuse pollute the surrounding air and everything which it contains; the other, that the liquid parts of the refuse pass by soakage or leakage into the surrounding soil, to mingle there, of course, in whatever water the soil yields, and in certain cases thus to occasion the deadliest pollution of wells and springs. To a really immense extent, to an extent, indeed, which persons unpracticed in sanitary inspection could scarcely find themselves able to imagine, dangers of these two sorts are prevailing throughout the length and breadth of this country, not only in their slighter degrees, but in degrees which are gross and scandalous, and very often, I repeat, truly bestial. And I state all this in unequivocal language, because I feel that, if the new sanitary organization of the country is to fulfill its purpose, the administrators, local and central, must begin by fully recognizing the real state of the case, and with consciousness that in many instances they will have to introduce for the first time, as into savage life, the rudiments of sanitary civilization."

You will perhaps find fault with my giving so much space to the subject of soil pollution; but, gentlemen, if we wish to make this city the sanitarium that the Creator designed it to be, *the soil upon which we build must be healthy.* Nature's

perfect sanitary conditions, as they are found here, cannot keep our city free from disease, if we permit deposits of filth and the propagation of disease germs to form the foundation of our habitations. We have endeavored to enlist the cooperation of our people in the maintenance of the sanitary rules of the city by showing the dangers arising from the putrefaction and decomposition of filth around their premises, and by impressing upon their minds the importance of individual cleanliness. We have thus added, within the past few months, quite a number to our corps of volunteers for this sort of sanitary work ; and if we can succeed in getting each family and individual sufficiently interested in the protection of their own sanitary surroundings, the Health Department will find its labors greatly lightened.

As a further sanitary precaution, I would recommend that your honorable body adopt a rule prohibiting the construction of foundations for new buildings upon any site that has, by the deposit of privy soil or any other refuse matter, rendered the earth of such building site unhealthy, until such deposit, and as much of such soil as the Board of Health may deem necessary, shall have been removed.

CITY SCAVENGERS.

The people of this city had been unmercifully imposed upon in the scavenger work performed, so I had the City Attorney prepare an ordinance governing this class of work, for the protection both of the people and the city. Since this ordinance has been in force, thousands of dollars have been saved to our citizens, as well as seventy-five per cent of the cost to the city. At the same time, a much better class of work has been given to both by all our scavengers, some of whom were in the habit of making exorbitant charges for vault cleaning and filling, which they would do in the night-time, leaving the privy soil in the vault simply covered up. The ordinance referred to requires this work to be done by the citizens, and to the Health Department they owe a debt of gratitude for the protection thus afforded them.

I believe that all our scavengers are now doing a fair and honorable class of work, and that the people are receiving faithful services at their hands.

REMOVAL OF GARBAGE.

Soon after my appointment as Health Officer I was requested to investigate the matter of the removal of our city offal, and especially to report

upon the crematory system for the disposal of all refuse. I immediately entered into correspondence with health officers and other sanitarians of various cities throughout the country for information on this subject, and I did not find in a single instance a sanitarian who advised the adoption of a crematory for any city having the bay and ocean advantages that we possess. Many inland towns are necessarily obliged to adopt this system, even in its experimental stage, as their only means for the disposal of offal.

As may be seen by the report of the Health Inspector, an average of 1016 tons of garbage are disposed of monthly, besides the carcasses of dead animals. I recommend that we continue our present mode of disposing of offal, and by the first of February we shall have the use of the city wharf; after which the annoyance that the public has complained of while using the wharf of private parties, will cease, and the offal be disposed of at much less expense.

I am not satisfied with our present system of scavenger work. With the best efforts we have been able to use, the fact remains that our city is not a model of cleanliness. It is impossible to get, under our present method, that unanimity and concert of action so necessary to purify the city as it should be done. I would therefore re-

commend that *all* scavenger work be done by the city at its own expense ; otherwise, we shall never be able to attain that degree of perfection in the cleanliness of our yards, streets and vacant lots that the health of our city requires.

FILTHY STREETS.

Until the streets running through the business portion of the city are properly paved and guttered, and the wooden sidewalks, with their filth-collecting area beneath, are superseded, we must not expect them to be in perfect sanitary condition. During ten consecutive months of the year our streets are not washed by rains, nor is there any other practicable means for flushing them. Tons of filth from horses standing along the sides of the streets are deposited in our gutters, the liquids to be absorbed by the porous soil, and the solid matter either to be carried into the earth with the liquids, or to be ground into a fine powder, which the wind carries through the air, and it is thus breathed into our lungs and becomes the direct source of disease. That portion of the deposit which is absorbed into the soil, when the rains soften the earth, yields an extremely bad odor, and places our streets in a very unhealthy condition. When these avenues are properly gut-

tered and paved, this nuisance can be prevented ; but not till then.

OFFENSIVE ODORS ALONG THE BAY.

Complaints from all quarters came thick and fast concerning the offensive odors along the water front, and as a rule these complaints were well founded. The odors, at times, were almost unbearable for a distance of from a quarter to half a mile from the bay, and were perceptible even to a much greater distance. They were attributable to two sources : 1st, To the vile practice of some of our teamsters daily dumping tons of filthy refuse along the water's edge, and the almost universal habit of the people living along the water front throwing all their refuse into the bay. 2d, To the filthy and unsanitary condition of our outlet sewer-tank.

I have already made such recommendations to the Board of Health as I considered best to remedy this condition of the tank ; and since then many other plans have been suggested by various parties. I am still of the opinion that the remedy then proposed is the best and most economical. We have, with the help of the police department, put a stop to dumping or throwing offal along the water front. Several arrests were made, and the parties punished ; and I think, by keep-

ing a close watch, we can practically prevent this disgusting and unsanitary condition of things along the bay.

CITY JAIL.

In the general plan for the construction of our city jail every sanitary condition was totally ignored. The cells are all dark and damp, and lack ventilation. There are openings made to admit light and air, but there is a dampness of the floors that cannot be avoided, owing to the sills being placed on the low, moist ground. I contemplate excavating beneath the building to admit the free access of air and light under the ground floor.

I also found, on assuming charge of the sanitary care of the city jail, that cleanliness and health were no part of the economy in general management. The bedding was not aired and the cells were filthy. Many inhabitants occupied these beds and cells whose names, if they had any, did not appear on the jail register, but who were familiarly known to the prisoners by the one name of "Creeper." I ordered the bedding to be aired and the floors dry-mopped each day. Also, the floors and walls scrubbed twice a week, and washed with a strong solution of mercurial chloride and sulphate of copper. The jail is

maintained at present in as clean and healthy a condition as the general arrangement of things will admit of.

PUBLIC SCHOOLS.

No other public schools in the world can show as clean a bill of health on the part of their pupils as those of San Diego have done during the past six months. It is an extremely rare thing for a pupil in any of the departments to be reported sick; and not a single case was reported during all last term of any contagious diseases. The public school buildings in this city all have an abundant window area and are well ventilated. I am pleased to state that the school authorities fully realize that fresh air and sun-light are essential to the health and strength of their pupils, and that they are not afraid to give them all the benefits of a free and plenteous enjoyment of its physical influences. I desire here to thank both the authorities and the teachers for their courteous conduct and willingness to help me at all times in my sanitary work relating to the schools of our city.

QUARANTINE.

Soon after my appointment as Health Officer, I had a complete set of quarantine flags made, and

have arranged with the pilots and light-house keeper a quarantine signal system by which I am informed of all vessels coming into this bay from infected ports. I am prepared, at any time, to go out and board any such vessels for inspection before permitting them to enter our port; and our citizens may rest assured that this city is as securely protected against the invasion of any contagious diseases by ships entering here as any city in the country.

PLUMBING.

Most prominent among the reforms your honorable body have inaugurated in this city is the thorough organization and management of the plumbing business; and I am proud to state that our plumbing system is as complete and thorough in all its appointments as that of any other city in the United States.

While San Diego is not yet in the full enjoyment of perfection, or even that degree of perfection attained by some other cities, in several branches of sanitary work, still we are rapidly pushing forward; and if we maintain the same rate of progress that has been made during the past six months, we shall, before the appearance of our next annual report, have achieved such an improvement in all our sanitary systems as will

entitle our city to a position as a model sanitarium second to none in the world.

OUR SEWER SYSTEM.

The system of sewerage adopted by this city is what is known as the Separate Water Carriage or Waring system. The total length of our mains is 40 miles, and the pipe ranges from 6 to 24 inches in diameter. A further summary of the statistics relating to this plant will be found in the report of the City Surveyer.

The principles of this system are peculiarly adapted to the requirements of our city. In separating the rain or surface water into a channel of its own, the size of the mains is so reduced that by a process of artificial flushing they are thoroughly cleaned twice a day—a process practically impossible in the combined system, in which the surface water and sewage proper are carried off through the same channel. This plant is well constructed, and in successful operation.

Some difficulty has been met with in the rupture of several hundred feet of the main pipe, which I think is attributable to a want of adequate ventilation. And as this subject of ventilation is of more than ordinary importance, I have given much study and thought to it, so far as it pertains to this system, so as to prevent further

accidents by the compression of gases or air in our sewers, when the outlets are tide-locked. I would recommend that several of the inspection-holes in each street, above tide-mark, be so constructed as to admit of perforated covers. And as but a slight pressure is required to force a trap, even with a good seal, I would recommend, in addition, that a suitable structure be placed at the sewer outlet to prevent the admission of strong currents of air, which may produce such internal pressure as to endanger the safety of our traps.

I would also recommend that, as soon as the city's finances will permit, a salt-water plant be put in, consisting of a large receptacle, built on an elevated place in the City Park, to be owned and used by the city for the flushing of our sewers, for the fire department, and for cleaning and sprinkling our streets during the dry season.

By running a water main down every third street, every avenue can be easily reached for the purposes above mentioned. The value of such a plant for our sewer system, by giving an abundant supply of water for frequent flushing at a nominal cost, would alone more than justify the outlay necessary for its construction ; and for fire and street-sprinkling purposes its value can hardly be over-estimated.

I have carefully investigated the matter of sprinkling our streets with salt water, and I find that some foreign cities who claim to have attained the highest degree of sanitary perfection, have been following this practice, because of its superior sanitary advantages, even where fresh water is abundant and allowed to run to waste.

SAN DIEGO AS A SANITARIUM.

When the Creator designed this beautiful world it would seem as though he had chosen San Diego as the spot in which to concentrate all earthly blessings. Like the Princess in the fairy-tale, on whom her godmothers lavished every gift, San Diego seems to have no want ungratified and no attraction denied to make her the most delightful of sanitariums—one combining every essential for the comfort, health and happiness of man. Other cities styling themselves sanitariums have some of the advantages of San Diego—mild climate, ocean breezes and pure atmosphere—but these usually last only for a season, and then the valetudinarian must pack up and travel to avoid the harsher weather which is to follow. In San Diego alone, of all the cities of the world, can the invalid remain, without fear of consequences, both in summer and winter, as the variations of temperature are so slight between them

that one season can hardly be distinguished from the other.

The location of San Diego is generally conceded, by persons of culture and artistic taste who have an eye for the picturesque, to be unrivaled. Such a glorious panorama of mountains, valleys, plains, bay, islands and distant ocean, with the white surf dashing on the sandy shore, presents a picture of loveliness and color that can hardly be surpassed. Add to this, the sense of life and motion conveyed by the travel of steam, electric and horse cars on land, and the rushing of tugs and steamers amidst a forest of masts on the water; and the charming atmospheric phenomena shown in our sunrises and sunsets, with cloud effects, on both land and water, that are wonderful and sometimes even startling; and it cannot but be acknowledged that such a beautiful unity of scenery and climate can be found in no other city on the habitable globe.

Nor is this all. San Diego has facilities for aquatic sports that cannot be surpassed. She is well supplied with bath-houses, where swimmers of both sexes can launch themselves forth into the arms of old Neptune, or take their regular salt-water bath, either hot or cold. Should they prefer a dip in the surf, they have only to cross the ferry over to Coronado Beach, and their desire

can be gratified, either in summer or winter—for even in January the water of the Pacific ocean is so warm that delicate ladies often enjoy this luxury without the least discomfort. If it is preferred to take a row or a sail on the bay, or to go out for a day's deep-sea fishing in the ocean beyond, nothing can be easier, as we have boat-houses on every part of the water front, well supplied with row and sail boats, where vessels for short sea-voyages can be chartered.

In the city, less attention has been paid to horticulture and the decoration of our house-yards and gardens than is desirable; but many specimens of what can be done in this way may be found in all parts of the city. Here, in midwinter, when our northern and eastern cities are buried in crystal ice and fleecy snow, our gardens are ablaze with flowers and our ranches shipping fresh fruits and vegetables. Specimens of floral loveliness are daily visible here in winter which astonish the Eastern traveler. Geraniums growing as high as the roofs of cottages, and covered with blooms; roses flinging their blossoms among the branches of fir trees; palms, magnolias, pomegranates and other tropical shrubs, combined with the cactus and rare exotics, form bowers of loveliness that seem stolen from paradise; while the ground is carpeted with a green mantle of soft velvet fit only for the footsteps of angels.

CLIMATE.

San Diego is so situated that her climate is almost unchanging ; and while she is spared the icy cold and chilly winds which in most localities keep the invalid within doors during the winter season, the warm and pleasant sunshine which almost invariably prevails, tempts them to outdoor exercise, and renders them perfectly comfortable in its enjoyment. During the summer months San Diego is entirely free—and we wish to emphasize the words *entirely free*—from those hot, close, oppressive seasons which so debilitate and enfeeble the delicate constitution of the health-seeker ; while the cool, refreshing, health-bearing breezes from the ocean, which are of daily occurrence here, are grateful alike to the healthy and the weak.

Nature seems to have omitted nothing in making the sanitary conditions of San Diego absolutely perfect. While our winds are never too cold nor too strong for the comfort and pleasure of the most nervous or sensitive invalid, they are nevertheless continuous. Throughout the summer they are cool and invigorating ; while in winter they are so tempered as to be at all times perfectly comfortable for the out-door pleasure and exercise of the invalid. Our almost perpetual

sunshine also plays an important part in the economy of our sanitary condition, and the perfection of our climate for comfort and health.

It may be truly said that the residents of San Diego never experience those sultry, stagnant and enfeebling conditions, nor the murky, gloomy weather met with in less favored sections of our country.

The climatic conditions of this locality, fortunately, are decidedly unfavorable to the origin and spread of all of the so-called contagious and infectious diseases which the people so much dread. The best historic authorities, combined with the experience of the present generation, prove that certain varied climatic and sanitary conditions are absolutely essential to the existence of these diseases; also, that these conditions do not exist in San Diego. In hot, sultry places, where the decomposition of organic matter is active, malignant types of miasmatic fevers, yellow fever, tropical fevers, dysentery, cholera, and the diseases incident to childhood, are prevalent; while in colder climates we find small-pox, scarlet fever, erysipelas, diphtheria and kindred diseases. The conditions necessary to the existence of epidemics peculiar to either a hot or cold climate are totally wanting here; so that the people of this city need have no apprehension concerning these diseases;

and by the co-operation of our people in the maintenance of cleanliness and other sanitary conditions in the affairs of our city, and a strict conformity to all proper rules of health, no sickness in any form should originate here.

TEMPERATURE.

In matters meteorological the showing is equally favorable. The changes in temperature, and the direction and velocity of the wind, from day to day and from month to month, are so trivial as hardly to be worth recording. The thermometer, on the hottest day during the past six months, which embraced both summer and winter, only reached 82 degrees ; and on the coldest day during the same period was only 44 degrees. The highest temperature in July was 74 degrees, and the lowest in the same month, 62 degrees. In August the highest temperature was 82 degrees ; the lowest, 57 degrees. In September the highest was 82, the lowest 58. In October the highest was 80, the lowest 53. In November the highest was 75, the lowest 46. In December the highest was 73, the lowest, 44. The greatest variation in temperature during the six months has been from 82 to 44, a difference of only 38 degrees. As these figures came direct from the United States Signal

Officer, whose report is at the end of this volume, they will admit of no question.

WATER.

The supply of water which reaches this city through the Great Flume, comes from the living springs and melted snows of the Cuyamaca mountains, sixty miles distant. The flume is elevated above the ground at varying distances, but in all cases is raised beyond the possibility of contamination from the surface waters along its course, and its soft, living stream reaches the city in a state of absolute purity, free from all admixture of putrefying or decaying organic matter. This water, clean and sweet, with all the vitality of its mountain origin fully preserved, is conveyed to every building and every yard and garden in the city. The source from which the supply is drawn is absolutely inexhaustible and no better or more healthful water for drinking or washing purposes can be obtained anywhere.

DRAINAGE.

The natural drainage of the city is in every way favorable to perfect sanitary conditions. The Waring system of sewerage is completed and in full operation, and is a prominent factor in maintaining the health of the city. Besides which,

the sanitary laws of the city are good, and are being rigidly enforced.

BUSINESS.

An energetic man, accustomed to an active business life, but seeking a sanitarium where he can live in health and comfort, can make no mistake in coming to San Diego. A salient feature, heretofore overlooked by sanitarians, is the necessity on the part of the invalid, who has spent his life in the accumulation of wealth, for the exercise of this habit of mind. In other cities, health, pleasure and luxury are sometimes combined; but here we have also a wide field for business talent. The merchant or professional man, to whom the exercise of this talent is a pleasure, will find in San Diego a city that needs just such accessions. The effect of congeniality of employment, united with perfect sanitary surroundings, is a matter that has received too little consideration on the part of both physicians and patients; and certainly opportunities for business and investment will never be lacking in a city whose geographical position, mercantile advantages, sanitary condition and climatic influences are so fortunately grouped together as they are in this "City by the Southern Sea."

HOTELS.

San Diego is abundantly supplied with hotels, both of the first and second class, combined with accommodations for rooming and housekeeping sufficient for all present demands. The Hotel del Coronado is world renowned, and unsurpassed in luxury and splendor ; yet the prices are moderate in comparison with the surroundings. The hotels on this side of the bay are also maintained at a high standard of excellence ; and the last fear the intending visitor should entertain is that of not finding accommodation luxurious enough, extensive enough or cheap enough for any number that may favor us with their company.

LITERARY AND SOCIAL.

If a city is to be judged by its literary resources and recreations, San Diego is well able to stand the test. Its libraries are amply supplied with all the standard works, ancient and modern, and with periodicals from all parts of the world. Its literary societies are numerous and prospering, and embrace nearly every shade of philosophy and religion ; while its colleges, schools and institutes of learning are such as any city might be proud of. The newspapers and magazines are the best of their kind ; and we have literary men and

women living among us, or regular and frequent visitors here, whose names are known wherever the English language is spoken.

CONCLUDING REMARKS.

As has been already said, other cities recognized as sanitariums have some of the advantages of San Diego ; but no city of which history gives us any record, or which is in existence to-day, combines *all* the advantages possessed by her. In location, scenery, climate, temperature, water supply, drainage, openings for business and investment of capital she is unsurpassed. And it is universally admitted by medical men that beautiful, pleasant and prosperous surroundings act soothingly and beneficially on the mind of the patient. Possessing, as San Diego does, the only land-locked harbor on the Pacific coast, from San Francisco down to the equator, and with two new railroads in actual course of construction, her commercial future is assured beyond all question. To her wharves come vessels from every clime, bearing at their mast-heads the flags of all nations, and through these San Diego speaks to the world.

Many people have come to this city through the influence of our health reports, which are sent all over the country, showing the advantages of

San Diego as a health resort. Among many instances which have come within the cognizance of the Health Office I may cite the following :

Mr. Charles Von Lunen, of Johnstown, Pa., called on the Health Officer of his city, Dr. W. B. Lowman, and told him the physical condition of himself and family required a change of climate. He asked the Doctor for advice as to what locality he should choose. The Doctor replied that from all the health reports which came to his office, he regarded that of San Diego as the most favorable, and advised him to come here. When the party arrived, Mr. Von Lunen called on the Health Officer here to express his delight with our climate and surroundings ; and as a result of the information conveyed by our health reports, that gentleman, his wife, three daughters and a lady relative, all people of wealth and culture, have taken up their permanent abode in San Diego.

Again, Mr. W. L. Pierce, a prominent attorney of this city, recently fell in with a group of Eastern health-seekers on Florence heights, who were commenting in glowing language on the beauties of our scenery and climate, and was told by them that they came here solely on the strength of information derived from our health reports. They had received the intelligence at first with some misgivings, and had come to investigate, leaving

their families at home. Their only regret now was that they had not brought their relatives with them ; but they had already sent back for them to come immediately.

With these evidences of what our health reports are accomplishing, I would recommend to your Honorable Board the publication of a pamphlet, carefully prepared by the sanitary authorities of this city in conjunction with the Chamber of Commerce, setting forth accurately, truthfully, and without exaggeration, the advantages I have here merely hinted at, for the purpose of spreading this much desired information among the thousands of invalids who are anxiously seeking a locality specially suited to all their requirements of health, pleasure and business.

And now, gentlemen, it affords me pleasure to congratulate you on the results of the reforms you have instituted in your department of the municipal affairs of this city. The gradual but steady improvement in the health of our people, as shown in our mortuary reports, and especially in that for the month of December just closed, stands out as a bright and shining record of the success of your efforts in this direction. In the table just referred to, it will be seen that the deaths from all causes for December were only 12, in a population of 32,000 (the gain in population

that month coming from the annexation of Colorado) ; this being at the rate of 1 death for every 2,666 persons, or .375 per 1,000 (three-tenths and seventy-five hundredths of one person). Of these deaths, 3 were from zymotic diseases ; 4 of children under 5 years of age, and none of children under one year of age !

In every branch of the Health Department there has been, and still is, a perfect unanimity and harmony of action in all efforts to advance the sanitary interests of our city. It also gives me much gratification to publicly acknowledge the many courtesies I have received at your hands, and to attest to the judicious counsel and prudent advice with which you have favored me in the performance of my duties. Also, to testify to the efficient and faithful services of my assistants in the various departments, who have so materially aided the Health Department to attain its present high standard of perfection.

D. GOCHENAUER, M.D.,

Health Officer.

REPORT OF CLERK.

San Diego, Cal., January 1, 1889.

D. GOCHENAUER, M.D., Health Officer :

Dear Sir : I have the honor to submit the following Tables for the year ending December 31, 1888 :

No. 1. Mortuary Report for December, 1888.

No. 2. Cases and Deaths from all Causes.

No. 3. Cases and Deaths from Contagious Diseases, etc.

No. 4. Showing number of Indigent Sick treated.

No. 5. Showing Number of Marriages.

No. 6. Showing Number of Births reported to Health Office.

No. 7. Showing Number of Still-Births reported to Health Office.

EMMA SMITH,

Clerk Health Department.

TABLE No. 1.
MORTUARY REPORT FOR THE MONTH OF DECEMBER, 1888.

DISEASES.	Total Deaths from Each Disease	AGES.							SEX.		NATIVITY.				
		1 to 5 years	5 to 10 yrs.	10 to 20 yrs.	20 to 40 yrs.	40 to 60 yrs.	60 to 80 yrs.	80 to 90 yrs.	Male	Female	San Diego	California	Oth. Cities	Foreign	
CLASS I.															
MIASMATIC.															
Typhoid Fever.....	1	..	1	..	1	..	..	..	1	..	..	1	..	1
Malarial Fever.....	1	..	1	..	..	..	..	..	..	1	..	1	..	..
Cerebro-Spinal Fever.....	1	1	..	..	..	..	..	..	..	1	..	1	..	..
CLASS II.															
CONSTITUTIONAL.															
Phthisis Pulmonalis.....	3	..	..	..	2	1	..	..	2	1	..	..	1	2
CLASS III.															
LOCAL.															
Pneumonia.....	1	1	..	..	..	..	1	..	1	..	..	1	..	1
Heart Disease.....	1	..	..	..	..	..	1	..	1	..	..	..	..	1
Enteritis.....	2	1	..	..	1	..	..	..	1	1	..	..	1	1
Bright's Disease.....	1	..	..	..	..	1	..	..	1	..	..	..	1	..
Puerpera Hemorrhagica.....	1	1	..	..	..	..	..	..	1	..	..	..	1	1
TOTAL DEATHS.....	12	4	1	..	4	2	1	..	8	4	..	3	3	6	

(TABLE No. 1—CONTINUED.)

STILL-BIRTHS.

Number for the Month	5
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NATIVITY.

San Diego	0
California	3
Other Cities	3
Foreign	6

SEX.

Male	7
Female	5

SOCIAL CONDITION.

Married	4
Single	6
Widowed	1
Unknown	1

CEMETERIES WHERE BURIED.

Mount Hope	11
Unknown	1

Estimated Population, 32,000. Death Rate per 1,000 for the Month, .375.

Three-tenths and seventy-five hundredths of one person ; or at the rate of one death for every 2,666 persons.

TABLE No. 2.

SHOWING THE NUMBER OF DEATHS EACH MONTH, AND THE CAUSES.

CAUSES.	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
CLASS I.							
ZYMOTIC DISEASES—MIASMATIC.							
Cholera Infantum	1	3	..	..	..	..	4
Diarrhoea	1	1	..	..	2	..	4
Fever, Cerebro Spinal	2	..	..	1	..	1	4
“ Typhoid	4	2	1	1	1	1	10
“ Typho Malarial .....	..	..	1	1	..	1	3
Septicæmia	1	..	1	..	..	..	2
Erythema	1	..	..	..	..	..	1
Pertussis	1	..	..	..	..	..	1
Alcoholism, Chronic .....	..	..	1	..	..	..	1
CLASS II.							
CONSTITUTIONAL.							
Phthisis Pulmonalis	3	2	..	3	4	3	15
Cancer	2	1	..	..	..	..	3
Tabes Mesenterica .....	..	..	..	..	1	..	1

CLASS III.							
LOCAL.							
Pneumonia	1	1	3	1	5	1	12
Convulsions	2	..	..	..	1	..	3
Paralysis	1	..	..	..	..	..	1
Enteritis	4	3	2	..	..	2	11
Bright's Disease	1	..	1	..	1	1	4
Nephritis .....	..	1	..	..	..	..	1
Dropsy .....	..	..	..	..	1	..	1
Diabetes .....	..	..	..	1	..	..	1
Heart and Organic Diseases	2	1	2	1	4	1	11
Inflammation of Liver	1	..	..	1	1	..	3
Other Diseases of the Brain and Nervous System	1	3	2	..	..	..	6
Purepera Hemorrhagica .....	..	..	..	..	..	1	1
CLASS IV.							
DEVELOPMENT.							
Premature Birth .....	..	..	..	2	1	..	3
Old Age .....	..	1	..	1	1	..	3
Child-birth	1	..	..	..	..	..	1
CLASS V.							
VIOLENCE.							
Crushed by Cars	1	..	..	1	..	..	2
Gunshot Wound	1	..	..	..	..	..	1
Drowning	1	..	..	..	..	..	1
Suicide .....	..	1	..	..	..	..	1
Accidental Poisoning .....	..	..	..	1	..	..	1
Mrs. Winslow's Soothing Syrup .....	..	1	..	..	..	..	1
TOTALS	33	21	14	15	23	12	118

TABLE No. 3.

SHOWING NUMBER OF DEATHS FROM ALL CAUSES,
DEATHS FROM CONTAGIOUS DISEASES, NUMBER
OF BIRTHS, MARRIAGES, INDIGENT SICK, AND
STILL-BIRTHS.

MONTHS.	Cases and De'ths from all causes	Cases and De'ths from Contagi's Diseases.	Number of Births Rep'ted.	Marriages.	Indigent Sick Treated.	Number of Still Births Rep'ted.
JULY	33	6	21	22	7	3
AUGUST	21	2	11	22	6	3
SEPTEMBER	14	1	6	15	7	2
OCTOBER	15	2	13	25	17	2
NOVEMBER	21	1	12	20	22	2
DECEMBER	12	2	8	7	17	5
TOTAL	116	14	71	111	76	17

TABLE No. 4.

SHOWING NUMBER OF VACCINATIONS AND PRISON-
ERS AND INDIGENT SICK TREATED.

MONTHS.	City Prisoners Treated	Indigent Sick Treated	Professional Visits for the City	Number of Office Visits	Total Number of Visits	No. of Persons Vaccinated
JULY .....	..	7	24	..	..	..
AUGUST	9	6	37	5	42	..
SEPTEMBER	11	7	44	7	51	..
OCTOBER	9	17	41	22	63	373
NOVEMBER	5	22	46	13	59	..
DECEMBER	4	17	38	7	45	..
TOTAL	38	76	230	54	260	373

TABLE No. 7.

SHOWING STILL-BIRTHS REPORTED TO THE
HEALTH OFFICE.

	July	August	September	October	November	December	TOTAL
MALE	1	3	2	1	1	3	11
FEMALE	1	..	..	1	..	2	4
NOT STATED	1	..	..	..	1	0	2
TOTALS	3	3	2	2	2	5	17
WHITE	2	3	2	1	2	5	15
COLORED	1	..	..	1	..	..	2
TOTALS	3	3	2	2	2	5	17
ATTENDANCE.							
PHYSICIAN	3	3	2	2	2	5	17
MIDWIFE .....	..	..	..	..	..	..	..
CORONER .....	..	..	..	..	..	..	..
NO ATTENDANCE .....	..	..	..	..	..	..	..
TOTALS	3	3	2	2	2	5	17

REPORT OF HEALTH INSPECTOR.

San Diego, Cal., January 1, 1889.

D. GCHENAUER, M.D., Health Officer :

Dear Sir : I have the honor to submit the following Tables of inspection made and sanitary work performed in my department, for the year ending December 31, 1888 :

No. 8. Number of Nuisances Reported, Inspected and Abated.

No. 9. Number of Dead Animals and other Offal Removed by City Scow.

No. 10. Number of Dead Animals and other Offal Removed by City Scavenger.

No. 11. Number of Dead Animals and other Offal Removed to Public Dump.

I desire again to call your attention to the fact that vaults and cesspools are being dug in some parts of the city, without permits, and in direct violation of the rules of the Board of Health.

In Chinatown, where the filthiest and most

dangerous vaults and yards were found six months ago, can now be seen premises as clean and in as good sanitary condition as any in the city.

Over seventy-five per cent of all the families whom I have served with notices to abate nuisances have promptly and cheerfully complied with the same, especially during the last few months ; which shows there is a growing interest on the part of the people in sanitary affairs.

I have discovered four glandered horses during the past three months, which I have had killed and removed to the city scow.

Many complaints are made against the filthy condition of the scavenger wagons driven through the principal business and residence portions of the city. I regard these complaints in most cases as just, and I would recommend that more stringent rules be made, regulating these portable nuisances. Owners of these wagons should be made to wash them more frequently ; and they should not be allowed to stand on the public streets during the day-time.

Our water front has been the principal source of the unpleasant odors that have annoyed our citizens in the past. Tons of filth, of all sorts, were dumped along the bay, including dead animals, decayed meat, fish, night soil and all forms of garbage ; but with the assistance of the Police

Department and the Courts, this nuisance may be considered a thing of the past.

The question of how to manage the numerous pools of water caused by embankments made in street grading is one that I have been unable to solve ; and I would respectfully ask that you look into this matter, and advise me as to the method for their abatement.

There is another matter, that can scarcely be considered unsanitary, yet it gives our city an extremely unattractive appearance, and should be remedied by some of the departments. I refer to the paper, rags, straw, tin cans, boxes, crates, brush, and many other specimens of bric-a-brac which are thrown upon vacant lots. While, as a rule, no decaying matter is thrown on these lots and back yards, the rubbish that is allowed to accumulate is no ornament to our city, and the practice should be stopped.

I am indebted to the Plumbing Inspector, Sewer Inspector, Police Department, Sewer Committee, and to a large number of citizens, as well as to your own prompt aid and advice, for whatever success I may have attained in improving the sanitary condition of the city.

H. BAILEY,

Health Inspector.

TABLE No. 8.

SHOWING NUMBER OF NUISANCES REPORTED,
INSPECTED AND ABATED.

MONTHS.	Reported.	Inspected.	Re-Inspected.	Abated.	In Course of Abatement.	Complaints Without Cause.
JULY	113	113	85	80	10	8
AUGUST	253	253	231	185	45	23
SEPTEMBER	330	330	287	225	60	45
OCTOBER	345	345	256	256	50	39
NOVEMBER.....	149	440	407	340	67	33
DECEMBER	159	358	313	296	23	39
TOTAL	1349	1839	1579	1382	255	187

TABLE No. 9.

SHOWING NUMBER OF DEAD ANIMALS AND OTHER
OFFAL REMOVED BY CITY SCOW.

MONTHS.	No. of Trips City Scow	Tons of Offal Carried	Horses and Mules	Cattle	Goats	Dogs	Cats	Tons Condem'd Meat
JULY	9	310	42	1	1	50	59	..
AUGUST	9	397	23	2	0	26	30	..
SEPTEMBER	10	410	26	4	1	15	21	70
OCTOBER	11	455	11	2	0	51	21	..
NOVEMBER	9	292	13	3	0	10	21	..
DECEMBER	5	200	10	0	1	13	9	..
TOTAL	53	2154	125	12	3	165	15	70

TABLE No. 10.

SHOWING NUMBER OF DEAD ANIMALS AND OTHER
OFFAL REMOVED BY CITY SCAVENGER.

MONTHS.	Lords	Horses and Mules	Cattle	Dogs	Cats	Privy Vaults Cleaned	Privy Vaults dis- infected & filled	Privy Boxes Cleaned and Disinfected	Families Visited Regularly for Removal of Garbage
JULY .....	..	..	..	..	..	..	..	..	..
AUGUST	312	5	..	8	3	19	8	130	483
SEPTEMBER	926	4	1	9	8	21	10	150	585
OCTOBER	725	1	..	28	7	15	11	163	625
NOVEMBER	685	3	..	7	1	19	13	171	672
DECEMBER	520	1	..	5	2	16	12	275	575
TOTAL	3168	14	1	57	21	90	54	889	2940

TABLE No. 11.

SHOWING NUMBER OF DEAD ANIMALS AND OTHER
OFFAL REMOVED TO PUBLIC DUMP.

MONTHS.	Loads	Horses	Mules	Cattle	Goats	Dogs	Cats
JULY	748	5	..	..	1	3	..
AUGUST	908	..	..	..	..	..	..
SEPTEMBER	649	..	..	..	..	1	..
OCTOBER	613	..	..	..	..	..	..
NOVEMBER	524	..	..	..	..	..	..
DECEMBER	498	..	..	..	..	..	..
TOTAL	3940	5	..	..	1	4	..

REPORT OF PLUMBING INSPECTOR.

San Diego, Cal., January 1, 1889.

D. GOCHENAUER, M.D., Health Officer :

Dear Sir : I have the honor to submit my report for the fiscal year ending December 31, 1888 :

93 plans for new buildings, and 187 for old buildings, were submitted for examination. I have also made inspections of plumbing and drainage work of 279 new buildings, and 374 on old buildings.

All plans approved, and all plumbing work done and approved, during my term of office, comply in all respects to the rules of the Board of Health, and a complete record of the same is kept on the files in my desk. I remain in my office from 8 to 9 a.m., and from 4 to 5 p.m., for the examination of plans and consultation with the plumbers.

The records of my office show the approval of 280 plans for plumbing work, in old and new buildings ; and, considering that I made from two

to four inspection visits during the progress of each building, and that some inspections occupy from thirty minutes to four hours, and that this work is scattered over miles of area, it is easy to estimate that a large amount of labor is involved in the duties of the office ; and the reasonableness of my request for the use of a horse is made apparent.

Much of the plumbing work done during the rapid growth of our city was of an inferior quality, both as regards work done and material used ; but since we have worked under the rules of this department, all materials used and labor performed have been strictly in conformity with its requirements, and there is a continual improvement in the quality of the work done. There is also an increasing interest manifested on the part of our master plumbers, who now, without exception, cooperate with me in my efforts to do good and substantial work in this department of our sanitary labors.

There are now 15 master plumbers who hold permits from the Board of Health, are properly registered, and have filed their bonds in accordance with the law ; and there are 22 journeymen plumbers who have passed their examinations, hold permits and have registered, all of whom I believe to be competent plumbers ; and I am proud

to say to say that San Diego to-day has as intelligent, thorough and efficient plumbers as any city in the country.

In compliance with your request, I have carefully investigated the grease traps, and have followed out your instructions to have them retained in all hotels, boarding-houses, restaurants and the like, where quantities of grease are liable to be thrown into the sewer, until the advisability of their abatement is more fully demonstrated. I am of the opinion that their use in such places is indispensable to the success of our sewer system. This is shown in a number of instances, where the excessive amount of grease was found to have choked up the drainage. The present location of the grease traps will need some change, as they are not convenient for inspection and cleaning.

The change from the pan and plunger closets to tank closets, for inside use, is meeting with general satisfaction.

I respectfully call your attention to Table No. 12 annexed to this Report, showing Number of Plans Filed and Approved, and Number of Inspections Made.

GEO. F. KENDALL,

Inspector of Plumbing.

TABLE No. 12.

SHOWING NUMBER OF PLANS FILED AND APPROVED,
AND NUMBER OF INSPECTIONS MADE.

MONTHS.	Plans Filed	Plans Approved	Applications for Inspection	Applications for Final Inspe'n	Plans Rejected	Inspection Visits Made	Cases in Violation of Rules	Nuisance Inspection Visits made
JULY	27	27	13	6	3	..	..	..
AUGUST	56	55	73	33	8	..	..	..
SEPTEMBER	60	60	35	23	1	..	..	..
OCTOBER	62	62	96	18	2	77	8	15
NOVEMBER	57	57	87	20	1	30	4	9
DECEMBER	18	18	30	9	..	41	3	19
TOTAL	280	279	334	109	15	148	15	43

REPORT OF SEWER INSPECTOR.

San Diego, Cal., January 1, 1889.

D. GOCHENAUER, M.D., Health Officer :

Dear Sir : I have the honor to herewith respectfully submit the following report and Statement of the Sewers of San Diego for the year ending December 31, 1888 :

The system adopted and in use is the Colonel Geo. E. Waring system, and comprises 39 miles of mains, laid throughout the city from the water front to Twenty-fourth street, with 135 flush tanks completed throughout the line. At the terminus of each line is one flush tank capable of holding 150 gallons. Only 72 flush tanks are in use, which are in perfect order, and automatically flush themselves twice in every twenty-four hours. There are 300 inspection holes, for the purpose of ascertaining the condition of the sewers. These holes are so constructed that if there is any obstruction in the sewer it can be detected at once.

There are also 20 man holes, for the purpose of entering the sewer, clearing away any obstruction and making the needed repairs, if any be required.

During the year, only 6 flush tanks have required repairing. In all the many miles of pipe laid throughout the city only one explosion has occurred, and that was in the 24-inch pipe on the main line. 608 feet of pipe was totally destroyed by this explosion, and was replaced by new pipe. In the last six months there has been laid 95,300 feet of 4-inch pipe, and 1,500 lateral connections made. In addition to Colonel Waring's contract, there has been laid by the city 650 feet of 6-inch pipe, which is connected with the Waring system. The Williams & Engle sewers, that were purchased by the city, are abandoned, and the Waring is the only system now in use. It is proving itself every day as the most durable and satisfactory in use at the present time.

In connection with this, I wish to mention the fact that the 24-inch outlet pipe at the foot of H street has been completely reconstructed; creosote piles have been driven, and the pipe is now resting on creosote piers which, in my opinion, will stand for years without further outlay, if no accident occur.

I would recommend that in connection with

the outlet pipe some action be taken to remedy the evil that endangers the health of the city by the extremely offensive odor which arises from the catch-basin or reservoir; and would suggest the bottom be dished to the center and concreted. That the basin be divided, so as to use one-half or less as a flush tank at ebb tide; to wit: after the tide is at an ebb low enough to create a current, the flush water to be turned on by automatic gates and force out to sea, through the 24-inch pipe, the refuse and sediment that now settles on the bottom of the reservoir and lies under the rays of a hot sun, to throw off a deadly stench, as at present.

I would further recommend, as a more simple and less expensive method, to maintain the 24-inch pipe in one continuous line through the reservoir, and connect with the main pipe at the gate-house, in one unbroken flow out to sea. I respectfully submit this suggestion at the earnest solicitation of many citizens.

I have one more matter that I think the Board would do well to consider, and that is the grease traps. I would recommend that they be brought into immediate use again; and earnestly urge that the attention of those using the sewers be called to the fact that they are not expected to carry off the accumulations of a junk shop; and

that a free and liberal use of water be employed for the benefit and preservation of our sewers.

S. T. GOLDTHWAITE,

Sewer Inspector.

CITY SURVEYOR'S REPORT ON SEWERS.

San Diego, Cal., January 1, 1889.

D. GOCHENAUER, M.D., Health Officer :

Dear Sir : Table No. 14 is a correct copy of the summarized Table showing the Sizes, Lengths and Cost of the Sewers of San Diego, prepared by my predecessor, O. N. Sanford.

The total length of sewers, not including outlet, is 205,410 feet (39 miles).

The total length of sewer-pipe used, not including outlet, is 211,130 feet (40 miles).

Cost of laying sewer-pipe, not including outlet, \$237,671 13.

Other details of the sewerage system, viz : flushing tanks, man holes, outfall sewer, sewage discharge reservoir, engineering, etc., increase the total cost of the system to \$400,968 74.

JAS. D. SCHUYLER,

City Surveyor.

TABLE No. 13.

SHOWING NUMBER AND LENGTH OF LATERAL
SEWER CONNECTIONS.

MONTHS.	Laterals Ordered during month	Lateral Sewer Permits granted	Lateral Sewer Connections made	Later'l Sewers in Course of Con- struction	Total No. of Feet of Later'ls laid for month	Total Length of Laterals laid
JULY	200	66	43	25	4300	72,500
AUGUST	127	52	53	15	5300	77,800
SEPTEMBER	320	87	65	42	6200	84,000
OCTOBER	492	36	34	18	3400	87,400
NOVEMBER	465	37	40	20	4000	91,400
DECEMBER	250	28	39	9	3900	95,200

Total length of Sewer Mains, 39 miles.

TABLE No. 14.

RECAPITULATION.

Size of Pipe	Straight Pipe.	House Y's	Inspect'n Y's	Street Y's	Length of Inspect'n	Length of Line	Length of Pipe.	Cost of Ditch'g Back-filling & Pipe-laying	Cost of Pipe.	TOTAL COST.
6 inch	143,044	9879	686	226	5392	165,123	170,011	\$133,656 55	\$40,236 00	\$173,892 55
8 "	21,125	1366	118	56	832	24,205	25,037	21,197 75	7,872 76	29,070 51
10 "	3,550	161	..	14	..	3,900	3,900	3,120 00	1,785 00	4,905 00
12 "	1,335	52	2	2	..	1,447	1,447	1,211 35	818 47	2,029 82
15 "	2,774	152	..	..	..	3,078	3,078	2,462 40	2,367 40	4,829 80
18 "	995	8	1	3	..	1,019	1,019	1,069 95	1,251 60	2,321 55
24 "	6,360	125	..	14	..	6,638	6,638	6,969 90	13,652 00	20,621 90
TOTALS	179,183	11,743	807	315	6224	205,410	211,130	\$169,687 90	67,983 23	\$237,671 13

FIRE DEPARTMENT REPORT.

San Diego, Cal., January 1, 1889.

D. GOCHENAUER, M.D., Health Officer :

Dear Sir : By special request, I herewith present my report of the condition of the Fire Department for the year ending December 31, 1888 :

SAN DIEGO ENGINE CO. No. 1.

Location on Third street, between D and E.

This company is equipped with a fourth-class La France steam fire engine, built by the La France Fire Engine Company, of Elmira, New York. Weighs 5,800 pounds, and is drawn by two horses.

This company also has a four-wheeled hose carriage, built by P. J. Cooney, of St. Louis, Missouri. Carries 700 feet of hose ; weighs 2,200 pounds, and is drawn by one horse.

HAMILTON ENGINE CO. No. 2.

Location on Fifth street, between A and B.

This company is equipped with a second-class Ahrens steam fire engine, built by the Ahrens Manufacturing Company, of Cincinnati, Ohio. Weighs 7,500 pounds, and is drawn by two horses.

There is now on the way from the Sibley Manufacturing Company, of Seneca Falls, New York, a four-wheeled hose carriage, capable of carrying 1,200 feet of hose. The company now have two horses for this carriage.

HORTON HOSE CO. No. 1.

Location on K street, between Fifth and Sixth.

This company is equipped with a four-wheeled hose carriage, built by P. J. Cooney, of St. Louis, Missouri. Carries 700 feet of hose; weighs 2,200 pounds, and is drawn by two horses.

HOWARD HOOK AND LADDER CO. No. 1.

Location on Ninth street, between H and I.

This company is equipped with a four-wheeled truck, built in this city. Carries 150 feet of ladders, 2 scalers and 16 fire buckets; weighs 2,200 pounds, and is drawn by one horse.

HART HOOK AND LADDER CO. No. 2.

Location on Inter-ocean avenue and Twenty-sixth street.

This company is equipped with a four-wheeled truck, built by Preston, of Chicago. Carries 102 feet of ladders and 1 scaler; weighs 1,200 pounds, and is drawn by hand.

FRANK AVERY,

Chief Fire Department.

TABLE No. 15.

REPORT OF SAN DIEGO GAS COMPANY.

Total length of Gas Mains	10 miles.
Number of Consumers	470
Monthly Consumption in cubic feet	1,300,000

TABLE No. 16.

REPORT OF SAN DIEGO ELECTRIC LIGHT COMPANY.

Total length of Circuit, miles	29
Number of Arc Lamps... ..	150
Number of Towers	10
Height of Towers, feet	125
Number of Arc Lights for City	64
Number of Incandescent Lights	100
Number of Incandescent Lights for City .....	..
Size of Plant, horse-power	380

R. M. POWERS,
General Manager.

TABLE No. 17.

REPORT OF THE WESTINGHOUSE INCANDESCENT
ELECTRIC LIGHT SYSTEM.

Total length of Circuit, miles	8
Total number of Lights in use	1000
Candle power of each Light.....	16
Capacity of Electric Plant, lights.....	1300
Size of Steam Plant, horse-power.....	125

GEO. D. COPELAND,
President.

PUBLIC LIBRARY REPORT.

San Diego, Cal., January 1, 1889.

D. GOCHENAUER, M.D., Health Officer :

Dear Sir : I would respectfully present to you the annual report of the San Diego Free Public Library, for the year ending December 31, 1888 :

TABLE No. 18.

SHOWING RECEIPTS AND EXPENDITURES FOR
THE YEAR.

RECEIPTS.		EXPENDITURES.	
Cash on hand Jan. 1, 1888..	6,989 72	Salaries	1,436 59
City Collector's Taxes	11,206 95	Books	5,334 24
Fines and Deposits not Re- funded	243 80	Light	384 45
Books Sold	17 45	Fuel	31 00
		Papers and Periodicals	213 20
		Rent	1,162 00
		Improvements in Rooms ..	1,471 50
		Furniture	433 10
		Printing	76 75
		Binding	52 65
		Insurance	50 75
		Miscellaneous	173 92
		Cash on hand	7,637 77
	<hr/>		<hr/>
	\$18,457 92		\$18,457 92

The progress of the Public Library is shown approximately by the following report :

Number of Volumes in Library, Jan. 1, 1888.....	6,000
Accessions during past year.....	4,500
Number of Volumes lost.....	32
Number of Volumes discarded.....	300

Circulation during the year..... 26,792

CIRCULATION BY MONTHS.

January	865
February	896
March.....	1,200
April	1,682
May ...	1,400
June	2,085
July.....	2,133
August	2,722
September.....	3,045
October	3,269
November	3,128
December ...	4,367

CIRCULATION CLASSIFIED.

Philosophy	166
Religion	187
Social Studies	281
Foreign Language.....	128
Natural Science.....	514
Useful Arts.....	238
Literature (Fiction 18,032) ...	20,682
History.....	3,363

READING ROOMS.

The attendance at the Reading Room is increasing very rapidly.

HEALTH OFFICE REPORT,

MONTHLY PERIODICALS TAKEN.

Atlantic (2 copies).	Wide-Awake.
Century (2 copies).	Chautauquan.
Harpers (2 copies).	Scribner.
Eclectic.	Grammar School.
North American Review.	Forum.
Popular Science.	Overland.
Science News.	Golden Era.
St. Nicholas.	American Garden.
Art Journal.	Pacific Health Journal.

WEEKLY PERIODICALS TAKEN.

American Field.	Harper's Bazar.
Inter-Ocean.	Harper's Weekly.
Julian Sentinel.	Oceanside Star.
Christian Register.	Young People.
Globe-Democrat.	Scientific American.
Encinitas Journal.	Unity.
Lumberman and Contractor.	Youths' Companion.
Frank Leslie.	Argonaut.
New York Sun.	Pacific Rural Press.
Journal of Education.	American Architect.
New York Sunday Tribune.	

DAILY NEWSPAPERS TAKEN.

San Diego Daily Union.
 San Diego Evening Sun.
 Evening San Diegan.
 San Francisco Examiner.
 San Francisco Bulletin.
 Los Angeles Herald.
 Sacramento Record-Union.

L. YOUNKIN,

Librarian.

POUND KEEPER'S REPORT.

San Diego, Cal., January 1, 1889.

D. GOCHENAUER, M.D., Health Officer :

Dear Sir : I have the honor to submit the accompanying statement of the operations of the City Pound for the year ending December 31, 1888.

THOS. WELLER,
Pound Keeper.

TABLE No. 19.

SHOWING NUMBER OF ANIMALS IMPOUNDED AND
HOW DISPOSED OF.

MONTHS.	IMPOUNDED.								DISPOSITION.		
	Horses	Mules	Cattle	Sheep	Goats	Dogs	Hogs	Teams	Returned	Killed	Dogs Kill'd
JULY	11	1	9	..	..	36	2	19	62	..	16
AUGUST	9	2	5	3	..	21	..	17	47	..	10
SEPTEMBER . . . . .	..	..	..	..	..	110	..	22	56	..	..
OCTOBER	8	..	8	..	1	24	..	14	51	..	31
NOVEMBER	9	..	12	..	2	..	..	31	52	2	..
DECEMBER	7	..	14	..	..	26	..	15	46	1	..
TOTAL	44	3	48	3	3	217	2	118	314	3	57

HUMANE SOCIETY'S REPORT.

San Diego, Cal., January 1, 1889.

D. GOCHEXAUER, M.D., Health Officer :

Dear Sir : I herewith tender you a report of the work done by the Humane Society of this city, for the year ending December 31, 1888 :

The Special Agent of the Society having received authority from Judge Parker to make arrests, carry weapons and execute the work of the Society, reported regularly at their office, 909 Fifth street, and attended to all business left there.

He visited daily the stables in various parts of the city, and all public works where horses are used. He endeavored to get the co-operation of our citizens with the Society by inviting them to become members, or to report at the office any cases of cruelty that might come under their observation ; by placing the Society's cards in conspicuous places, and by getting the newspapers to report work accomplished by the Society ; and

although at the beginning he found considerable difficulty in carrying out the work, yet when parties found out that he was vested with the proper authority to make arrests, and that the law might sustain his action, he had less trouble in protecting dumb animals.

In all cases where he found it to be the first offence, if not a very bad one, he tried persuasion or threats rather than arrests or prosecution, to prevent a repetition, and would only adopt the latter course when he found the offense was committed through malice prepense rather than through ignorance or negligence.

He found that a great many complaints left at the office were either considerably exaggerated or without any foundation ; but in some cases, where he as well as the directors of the Society were convinced that there could be a strong case made before Court, and where the example would be of considerable benefit, he found it impossible to get a conviction. Whether the fault lies with the City District Attorney or with the Court itself, he cannot say. In cases where fines are inflicted for cruelty to animals, the Society is entitled to the greater portion of the fine ; but the agent could never get any portion of these fines from the Court.

In cases where there was a doubt as to the ail-

ment of an animal, or its capacity for work, the Agent gets the opinion of Dr. Bourke, veterinary surgeon, who has consented to give his services to the Society gratuitously.

Below is a report of cases having the Agent's special attention for the half year ending December 31, 1888 :

June 21. Found junk-store man using horse unfit for labor, and had it stabled and cared for.

June 25. Killed a dog on Florence heights, dragging its hind quarters on the ground.

July 2. Took a horse with sore back from a Chinaman from Sweetwater dam, and had it cared for.

July 22. Horses under watering-carts were ill-treated by drivers when pulling out from watering-place on H street. The place was soft and in bad repair. Had it fixed.

July 31. Found a mule in very bad condition in a brick-yard. Shot it, and had it removed.

August 1. Found a Chinaman at the end of Fourth street working a lame horse. Had its shoes removed, and the animal cared for.

August 4. Shot a ruptured dog.

August 4. Found a junk-store man, on I street, working a horse with a sore shoulder. Had it stabled and attended to.

August 6. Took a lame horse from a First street car, and had it stabled.

August 9. Took a foundered and lame horse from an Italian on D street. Had its shoes removed and the animal stabled.

August 9. Found a horse with sore shoulder in a milk-wagon. Had it put in stable.

August 15. Found two horses, near Atlantic and Grape streets, suffering from glanders. Shot them, and had the premises white-washed.

August 17. Fruit-vender's horse going lame on Fifth street. Had it stabled and attended to.

August 19. Horse going lame in wagon belonging to grocer on Thirteenth street. Had it stabled.

August 20. Found grocer on Columbia street working lame horse. Had it stabled and leg poulticed.

September 2. Found a man working gray horse on D street, and as he repeated the offence two days after, he was prosecuted.

September 20. Found a crippled horse near Thirty-second street and National avenue, Shot it, and had it removed.

September 21. Took lame horse from D street car, and had the animal stabled.

September 22. Found a lame horse on Fifth street, and had it put in stable.

September 29. Stopped lassoing of cattle at Pacific Beach sports, as they were conducted in a brutal manner.

October 12. A cow was run over by a Coronado motor, and had its leg broken. Shot it, and had it removed.

October 13. Found a Chinese laundry-man driving a horse with a sore back. Had it stabled.

RECAPITULATION.

- 15 horses taken from vehicles and attended to.
- 5 horses killed.
- 1 cow killed.
- 3 dogs killed.
- 2 prosecutions.

WILLARD N. Fos,
Secretary.

FINANCIAL STATEMENT.

San Diego, Cal., January 1, 1889.

To the Honorable the Board of Health :

Gentlemen ; I respectfully submit the following Financial Exhibit of the three departments under my charge, for the year ending December 31, 1888.

The stipulated salary for the Health Officer includes also his duties as City Physician and Quarantine Officer.

I desire to call your attention to the fact that the expenses during the past six months include the complete equipment of all the departments, the greater portion of which it will not be necessary to renew for several years to come.

EXPENDITURES FOR PAST SIX MONTHS.

SALARIES.

Health Officer, City Physician and Quarantine Officer,	\$900 00
Health Inspector	550 00
Health Inspector	350 00
Plumbing Inspector	600 00
Department Clerk	125 00
	<hr/>
	\$2,525 00

Forward..... \$2,525 00

PRINTING.

Plumbers' Examinations	\$17 50	
Plumbing Register	13 00	
Nuisance Register	15 00	
Record of Plumbing Work	15 00	
Approval of Plans	7 00	
Application for Inspection.....	10 00	
Non-Approval of Plans	4 00	
Final Inspection.....	7 00	
Certificates of Death.....	9 00	
Return Certificates of Still-Birth	10 00	
Certificates of Birth.....	25 00	
5000 Copies Plumbing Rules and Regula- tions, (24 pages).....	97 50	
Master Plumbers' Permits	7 50	
Journeyman Plumbers' Permits	12 50	
Plumbing Plans	11 50	
Plumbing Specifications.....	18 00	
Plumbing Inspector's Monthly Reports	6 50	
Cemetery Monthly Reports.....	15 00	
Monthly Health Reports	183 00	
Register of Physicians	10 00	
Revised Register of Physicians	5 00	
Vaccination Certificates.....	4 00	
Report of Contagious Diseases	17 50	
Envelopes	7 50	
Letter Heads	3 50	
		<hr/> \$531 50

OFFICE FURNISHINGS.

Furniture	75 67	
Carpets	55 59	
		<hr/> \$131 26

MISCELLANEOUS.

Advertising	58 85	
Blank Books.....	21 90	
Postage	14 00	
Horse Feed	140 00	
		<hr/> \$234 75

Total Expense of Health Department\$3,422 51

CITY HOSPITAL DEPARTMENT.

Telephone Construction.....	40 00	
“ Rental	15 00	
Vaccine Virus.....	60 00	
Drugs	19 90	
Furniture	39 13	
Bedding	7 62	
	<hr/>	
Total for Hospital Department		\$181 65

QUARANTINE DEPARTMENT.

Flag Material.....	10 15	
Flag Making	5 75	
	<hr/>	
Total for Quarantine Department		\$15 90

GARBAGE DEPARTMENT.

Captain City Scow, salary.....	360 00	
Dump Master, “	360 00	
	<hr/>	
		\$720 00

GARBAGE DISPOSAL.

Wharfage	200 00	
Towing Scow to Ocean	1,500 00	
Tools	6 50	
Printing City Scavenger's Orders	6 00	
Removal of Garbage and Dead Animals by Scavengers	61 20	
	<hr/>	
		1,773 70
	<hr/>	
Total for Garbage Department.....		\$2,493 70

D. GOCHENAUER, M.D.,

Health Officer.

TABLE No. 20.

METEOROLOGICAL SYNOPSIS

For the year ending December 31, 1888, taken in the City of San Diego, by M. L. HEARNE, M.D., Observer Signal Corps U. S. Army, from 5:12 a.m. to 12:12 p.m., and from 12:12 to 5:12 p.m.

MONTHS.	BAROMETER.				WIND.									
	Mean	Highest	Lowest	Monthly Range	North	N.E.	East	S.E.	South	S.W.	W.	N.W.	Calm	Maximum Velo city in Miles	Number of Observations
JULY	29.949	31.10	29.86	00.24	13	..	..	.	..	16	7	21	5 18 N.	62
AUGUST	29.900	30.02	29.74	00.28	16	2	..	..	..	13	8	19	4 21 NW.	62
SEPTEMBER	29.863	30.020	29.690	00.330	15	1	..	..	..	13	8	21	2 21 NW.	62
OCTOBER	29.922	30.060	29.710	00.280	9	5	..	3	3	14	7	13	8 22 SE.	62
NOVEMBER	29.990	30.120	29.710	00.410	4	8	8	3	4	6	8	13	6 23 NW.	60
DECEMBER	30.046	30.220	29.750	00.470	14	15	5	3	5	4	3	9	4 36 W.	60

(TABLE No. 20--CONTINUED.)

MONTHS.	THERMOMETER.										WEATHER.		
	Mean Tempera- ture of Month	Mean Temp. of Hottest Day	Mean Temp. of Coldest Day	Maximum Temperature	Minimum Temperature	Greatest Daily Variation	Monthly Range	Mean Daily Range	Mean of Maxim. Temperature	Mean of Minim. Temperature	Number of Clear Days	Number of Fair Days	Number of Cloudy Days
JULY	68.4	72.0	64.5	74.3	62.5	20.4	22.6	11.8	..	..	23	4	4
AUGUST	68.4	72.0	66.5	82.0	57.0	20.4	25.0	10.9	74.6	63.7	20	8	3
SEPTEMBER	68.2	72.5	64.0	82.0	58.4	17.8	23.6	10.2	74.8	64.6	16	3	11
OCTOBER ..	63.5	68.5	59.5	80.0	53.0	23.0	29.0	11.1	70.5	59.4	15	4	12
NOVEMBER	58.8	66.0	53.5	75.2	46.5	23.5	28.7	12.2	66.0	53.8	12	5	13
DECEMBER	56.5	61.5	51.0	73.0	44.0	29.0	21.3	14.1	65.2	52.1	18	2	11

*Latitude, 32 degrees 43 minutes 0 seconds.**Longitude, 117 degrees 8 minutes 0 seconds.**Height above the Sea, 66 feet.*

CORONADO WATER SUPPLY.

San Diego, Cal., January 1, 1889.

To the Honorable the Board of Health :

Since the Supreme Court of the State of California has decided that Coronado Beach is a portion of the city of San Diego, I have given special attention to the water supply of that beautiful locality, and find that it will bear favorable comparison with any other of the celebrated waters.

The Coronado Water Company recently discovered a series of living springs of pure water in the Otay valley, which is soft and pleasant to use, clear, bright and agreeable to the eye, and refreshing to the taste. This water has been piped to South San Diego, Coronado Heights and Coronado Beach ; and the present supply, which can easily be doubled, already amounts to a daily yield of over 5,000,000 gallons.

An analysis of this water, made by the eminent chemist, C. Gilbert Wheeler, of Chicago, gives

the following result as compared with the celebrated water of Waukesha, Wisconsin; and an examination of this analysis will show that, while their medicinal properties are almost identical, there is but one-half the amount of organic matter in the Coronado water that there is in the Waukesha water:

THE ANALYSIS.

	WAUKESHA. CORONADO.	
Silica .....	.092	.135
Alumina.....	.015	none
Iron (sesquide) .....	.004	.005
Sodium chloride .....	.145	1.217
Potassium chloride .....	....	.114
Potassium sulphate .....	.057	.069
Calcium sulphate.....	....	.166
Calcium carbonate.....	1 478	.811
Magnesium carbonate.....	.918	.591
Organic matter .....	.248	.124
Sodium sulphate .....	.068	....
Sodium carbonate .....	.109	....
	<hr/>	<hr/>
	3,134	3,286

Professor Wheeler adds that the Coronado water is highly medicinal, and peculiarly adapted for and very beneficial in all kidney diseases. The truth of this is fully demonstrated by the many cures that have been effected upon visitors who were seriously afflicted with those complaints. The water has been in use for several months for domestic purposes on Coronado Beach, with entire satisfaction to the consumers, who all speak

of it in the highest terms of praise. Many families even on this side of the bay have it delivered to their houses on account of its many excellent qualities.

This addition of medicinal water supplies the one thing wanted to make Coronado Beach, with its magnificent hotel and beautiful surroundings, the most elegant and attractive watering-place that could possibly be desired.

The discovery of the Coronado water is of so much importance, and has such a bearing upon our standing as a sanitarium, and the facts in regard to it, now in my possession, are so well authenticated, that I cannot but draw the attention of your honorable body to the matter, in the hope that you will give it a wider publicity. On further investigation, I will report on this subject at greater length.

D. GOCHEHAUER, M.D.,

Health Officer.

AREA OF CITY

AND

STATEMENT OF PUBLIC IMPROVEMENTS.

AREA.

Area of City improved	4½ miles.
“ “ “	2876 acres.
Area of City Park	1402 acres.

STREETS.

Streets Graded	38 $\frac{2}{3}$ miles.
Streets Improved and Unimproved	226 $\frac{1}{4}$ miles.
Streets Improved during 1887	17 5-6 miles.
Streets Improved during first six months of 1888	15 $\frac{1}{8}$ miles.

STREET RAILWAYS.

Length of Street Railways in operation	42 1-10 miles.
--	----------------

SEWER.

Length of Sewer Mains	39 miles.
-----------------------------	-----------

PUBLIC BUILDINGS.

Estimated value erected first six months of 1888	\$476,697
--	-----------

WATER SERVICE.

Total length of Water Mains	46 miles
Number of Pumps in use	3
Daily Pumping Capacity of first pump	3,500,000 gall.
“ “ second pump	2,000,000 gall.
“ “ third pump	600,000 gall.

Total Pumping Capacity 6,100,000 gall.

Number of Reservoirs	4
Average Elevation	190 feet.
Total Reservoir Capacity	3,800,000 gall.
Average Daily Consumption	1,500,000 gall.

CORONADO BEACH.

Daily Pumping Capacity	400,000 gall.
Length of Water Mains	38 $\frac{1}{2}$ miles.

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