A SANITARY SURVEY

OF THE

CITY OF

SILVERTON, OREGON.

*****

SUBMITTED TO

DR. H. J. SEARS.

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BY

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1934
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CHAPTER I.

Introduction.

The city of Silverton, Oregon, was incorporated on February 16, 1885, following a period of gradual growth and settlement which dated from the year 1842. The Silverton country prior to the immigration of 1842 was a forest wilderness with little prairies here and there and small mountains which were inhabited largely by the Molallas, a tribe of Indians. The people who composed the first exodus to this region were largely from the Mississippi Valley and their traits and characteristics are intimately linked up with the future growth and progress of the community. These early settlers were primarily interested in the soil and its products as a means of livelihood, but as one traces the evolution of the city, the bountiful natural resources and the opportunities for industry and manufacturing are found to have played their part in the formation of a prosperous and very desirable community. The names of Daniel Waldo, Jason Lee, John Morley, Homer Davenport and others are closely associated with the evolution of the city, as well as with the development of the entire state of Oregon. The name Silverton is derived from the location of this city upon the banks of Silver Creek, a small stream which has been an important factor in furnishing both power for industry and a very suitable source of water and sewage disposal.
The city of Silverton is located in Marion County, near the center of the Willamette Valley, one of the most beautiful and prosperous valleys in the Pacific Northwest. To the west of Silverton extends a broad fertile valley, which yields large crops of hay, grain, fruit and hops. To the east of Silverton are the foothills of the Cascade mountains which furnish not only a splendid source of raw and farm material but are also a sportsman's delight and a tourist's paradise. The north and south districts are composed of low, rolling hills very well suited for farming.

The climate of this community is equable the year around. Some winters pass without snowfall, and the gentle rains and sunshine contribute to the greenness of the hills and country. The average temperature is, in spring, 52 deg.; in summer, 67; in autumn 53; and in winter 39 deg. F.

The city itself is situated between two moderately large hills, while the surrounding country consists of rolling farm land combined with hills which are covered with verdant fir, oak, pine, and maple trees. The soil is particularly adapted to grain and farm products of all types and makes the farming industry a vital part of the community's resources.

The official population of the city proper in 1930 was 2500 people, but an estimation which included the adjacent districts and additions would approximate 4000 people. The foreign born constitute about ten per cent of the population and the principal nationalities are Scandinavian,
English and Irish. There is very little seasonal change in the population and the non-resident element is slight.

The community is both residential and industrial, although dependent for the most part on the presence of a large lumber mill, The Silver Falls Timber Company, for the bulk of its payroll. The farming and dairying industries are also important in the city's economic life as the location and climatic factors are conducive to these, from the standpoint of local supply and also as a distributing center to other parts of the state. Closely allied to these two industries is the presence of Fischer's Flouring Mill which markets both flour and all types of cereal, and also serves as a receiving point for the grain produced in the surrounding farm communities. The Silverton Blow Pipe Company employs about twenty men and at the present time has a national market for its furnaces and play-chutes which were invented by the present operators of the concern. In addition to these industries listed, there are numerous smaller ones which are concerned for the most part with the local needs of the city.

The municipal government of the city is accomplished by a Mayor, City Recorder, Treasurer, and five members of the city council.

The recreational facilities found in the town reflect the general spirit of the community, that of progressiveness. An attractive nine-hole golf course, a municipal swimming pool which attracts people from the entire valley, a large air-port, tennis courts, a municipal athletic field, etc., all combined with the natural facilities for mental and
physical recreation for the members of the community.

The civic organizations of the community which are most concerned with the health of the community are the Silverton Chamber of Commerce, The Parent-Teacher Association and The Silverton Woman's Club. All three of these, although not having any specific function in regard to matters of health, are active in fostering speakers on health subjects and also in raising money for health and social service activities. Additional work is also carried on by the various fraternal organizations of the community.
CHAPTER II.

Health Department.

The health department of the city consists only of the Health Officer who is Dr. P. A. Loar. This office is appointive and consists of one of the practicing physicians of the community. The remuneration is one hundred dollars per year.

The duties of the health officer consist for the most part of the control of the contagious diseases and the enforcement of quarantine regulations. There is no system for the reporting of infectious diseases except that authorized by and responsible to the State Board of Health.

The Marion County Health Association, headed by Dr. Vernon A. Douglass with headquarters in Salem, the county seat, keeps and maintains records of the vital statistics and other information pertinent to health problems in the community. This office has a very adequate and highly satisfactory index system in which all data for the county as a whole is kept. This association also is responsible for the periodic health examinations of the school children and holds regular clinics for this purpose.

There are no private or non-official health agencies in the community except the civic organizations mentioned previously, which sponsor such activities as the sale of Christmas seals, etc.
CHAPTER III.
Water Supply.

The present water supply for the city of Silverton was installed in 1911 and at the present time is municipally operated and controlled. Formerly there was a privately owned system in use which was leased by the city. Up until 1922 purification was not carried out in this city. The present source of supply has proven to be adequate for both private and commercial usage.

The water shed, enclosed by purple dotted line, on the accompanying map is seen to cover an area of approximately 20-25 square miles and includes the principle part of the historic Silverton Hills. It is obvious, after studying the map, that there are no precautions taken to prevent pollution. In fact on the Abiqua stream, farm houses are located directly on the banks of the stream immediately above the intake, and not over a distance of 3 or 4 miles are numerous small camp grounds. This ease of pollution is not true on the Silver creek source as the last point of direct human pollution is at Silver Creek falls, approximately 9 miles above the water intake; however, the stream is open to sportsmen throughout its entire course. On either streams there are no precautions taken to prevent trespassing or contamination.

The intakes consist of 2 dams located on the Abiqua and Silver creeks. These and the pipe lines are shown on the map. At the intakes the water passes through screens and then into 2 foot wooden pipes reinforced by steel hoops in
which it runs to the reservoirs. These reservoirs are located on a small hill near Silverton and are adequately protected with a high wire fence. From the reservoirs the water passes directly into the city mains. These two reservoirs have a capacity of approximately 1,000,000 and 280,000 gallons respectively. The newest and largest of these was constructed in 1928 and is made of reinforced concrete while the older is a deplorable looking contraption.

Purification of the water supply was inaugurated in 1922 and consists of a manual control, chlorination injection system. This is controlled by two sites at which the Chlorine is injected into the water lines before they reach the reservoirs. The gas is passed into a separate circuit of water and then by means of the conveyor into the main lines. This system is inspected daily and is kept in an efficient condition as is shown by the following tests:

<table>
<thead>
<tr>
<th>MONTHS</th>
<th>YEAR</th>
<th>GAS</th>
<th>B. COLI</th>
<th>TOTAL COUNT PER CC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>1932</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>April</td>
<td>1932</td>
<td>0</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>June</td>
<td>1932</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Nov.</td>
<td>1932</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Jan.</td>
<td>1933</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>June</td>
<td>1933</td>
<td>0</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>Sept.</td>
<td>1933</td>
<td>0</td>
<td>0</td>
<td>16</td>
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</table>
SILVERTON'S EXCELLENT WATER SUPPLY

It can not be denied that a good water supply is invaluable to a city. The health of its inhabitants is dependent upon pure water. Silverton is possessed of excellent water. The upper scene shows the Silver Creek intake 4½ miles up-creek. The lower picture is of the Abiqua intake, 6 miles east of Silverton.
CHAPTER IV.

Sewage System.

The present sewage system of the city was installed in 1911, and is under the supervision of Mr. Arthur Janz, who is also superintendent of the water bureau. The system is accessible to approximately 95% of the actual population of the town and of this number, about 90% are connected with the system.

The storm sewers and the sanitary component are under separate systems and empty into Silver Creek at a distance of about two miles from the city limits. The storm system has proven to be rather inadequate as heavy rains and excess demands cause a moderate delay in emptying. The city at the present time is contemplating combining and enlarging the two systems. There is no method of disposal of the excreta save by emptying into the stream. The point of emptying is removed from the actual population and is remote from the source of water supply. There are no bathing beaches or other towns below the site of emptying which might make this method of disposal a source of further contamination.

There are approximately eighteen private methods of excreta disposal, and approximately five of these are provided with septic tanks. The remainder are the vault type. There are no legal provisions made for the control of these systems.
CHAPTER V.
Garbage, Refuse, Ashes, Etc.

The general sanitation of the town is good, although there are no rigid laws governing most of the conditions. The vacant lots, etc., are required to be kept free from unsightly rubbish and trash. There is no one person in charge of the inspection of nuisances save the regularly appointed police officers.

There is no inspection of the plumbing facilities.

The collection of the garbage of the city is accomplished by means of one individual who does so by means of a truck. He is paid partially by the city and the remainder by the individuals served. The garbage and refuse is dumped in the city garbage lot which is located about one mile from the city limits. It is burned at regular intervals.

The system is hardly adequate to meet the needs of the town, inasmuch as there is no legal provisions made for the collection or disposal of garbage. The city should provide an incinerator or some means of burning the refuse at once rather than have it lying for several months before being burned. Regulations for the providing of proper receptacles and the regular collection of the garbage should be made.
CHAPTER VI.

Vital Statistics.

The following figures for vital statistics were obtained from the Marion County Health Officer, Dr. V. A. Douglass, due to the fact that no figures are kept for the city of Silverton, except as a part of the county health unit.

Death Rates.

Year ................ 1928 ............ 11.2 per 1000 pop.
                    1929 ............ 12.6
                    1930 ............ 11.1
                    1931 ............ 12.2
                    1932 ............ 11.6

Infant Mortality.

Year ................ 1928 ............ 37.5 per 1000 live babies.
                    1929 ............ 39.7
                    1930 ............ 40.6
                    1931 ............ 41.7
                    1932 ............ 46.1

Birth Rates.

Year ................ 1928 ............ 18.4
                    1929 ............ 15.6
                    1930 ............ 16.2
                    1931 ............ 18.1
                    1932 ............ 15.5

Specific Diseases.

<table>
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<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Dts</td>
<td>Cases</td>
<td>Dts</td>
<td>Cases</td>
</tr>
<tr>
<td>Smallpox</td>
<td>26</td>
<td>0</td>
<td>36</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Typhoid</td>
<td>8</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>23</td>
<td>0</td>
<td>24</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>Scarlet Fever</td>
<td>51</td>
<td>0</td>
<td>56</td>
<td>0</td>
<td>53</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>48</td>
<td>21</td>
<td>53</td>
<td>20</td>
<td>48</td>
</tr>
<tr>
<td>Measles</td>
<td>902</td>
<td>2</td>
<td>108</td>
<td>0</td>
<td>108</td>
</tr>
<tr>
<td>Wh. Cough</td>
<td>15</td>
<td>1</td>
<td>39</td>
<td>0</td>
<td>46</td>
</tr>
</tbody>
</table>
Control measures for communicable diseases are in the hands of the practising physicians of the city under the supervision of the Health Officer. All diseases are reported to both the city and the state health officer with the actual enforcement in the hands of the city authority.

There is no provision for reporting venereal diseases except through the blanks provided by the state board of health. This is seldom done by the physicians of the town and the records available are scanty.

The main criticisms of the measures used seem to be confined to the fact that the Doctors as well as the Health Officer are quite lax in reporting cases. Quarantine measures seem to constitute only isolation, detention from attending school, etc., rather than strict quarantine. In epidemics, once started of course the regulations are regarded with more strict observance. This situation is true, no doubt, of many of the smaller communities of the state.

Death and birth certificates are filed with the Registrar, Mr. George Hubbs, who in turn submits them to the state board of health. There are no records kept in the local office. The regular state forms are of course used in the reporting.
CHAPTER VII.

Milk.

The milk supply of the city of Silverton is derived from seven dairies, all of which are located within a radius of five miles of the city. Of these seven dairies only one is located within the city limits proper.

There are no specified city laws which govern the control or the production of the milk. The laws of the state are accepted as the standard for all of the dairies and they are subject only to the inspection of the state supervisors. Such inspection is carried out at intervals of three months and the milk is thoroughly tested at these times.

The milk of the city is graded into the following grades: Certified; Grade A.; Grade B.; and Grade C. These standards are based upon the state requirements.

A visit and inspection was made of the Golden Glow Dairy, which is located within the city limits and which is operated by M. E. DeGuire. The following information and observations were made:

The dairy is located at some distance from any other resident of the town and all of the surrounding land and buildings are in clean, sanitary condition. The cows are kept at some distance from the dairy in a large field which is amply provided with green grass and material for fodder. The dairy proper consists of a silo, a large dairy barn, a bottling room, a sterilizing room and a storehouse.
The dairy barn is a wooden building about fifty by thirty feet in area and is not provided with a floor. There are about a dozen windows and numerous electric lights within the building and the ventilation is very good. The manure pile is located at a distance of about twenty feet from the barn and appears to be in a fairly clean condition. There are ten stalls, all of which are proved with iron holders for the cows and with water and food troughs. There are no milking machines and all of the milking is done by three men.

The milk is collected in sterilized containers and is taken to the bottling room, which is a rather small, brick building located about fifty feet from the barn. The cows of the herd number about fifty, which are available for milking at all times. The cows are Tuberculin tested twice each year and any animal which shows a positive reaction is not allowed in contact with the remainder of the herd until the tests are again negative. The testing is carried on through the State milk inspectors. The employees of the dairy must submit to a physical examination at least once each year, and at the time of inspection their general personal appearance was one of marked cleanliness.

Sterilization of the containers and the utensils used is accomplished by means of a steam room which is about ten by fifteen feet in size. The utensils are placed in small carts and wheeled into this room and the steam is maintained at about 150 deg. for at least twenty minutes.
The milk when brought from the barn is placed in the sterilized bottles and is capped by means of a mechanical capper which works with amazing rapidity. The milk is then pasteurized by the revolving drum method in which the bottles are sprayed with hot water and then chilled before being delivered. The milk is delivered to the consumers within four hours of the final processing. Delivery is accomplished by means of two automobile trucks.

Practically all of the milk of this dairy is delivered directly to the consumers. However, a small amount of the milk is sold through the retailers, such as the grocery stores and the drug stores. In all of these placed the milk is placed in a cold place, practically all of them being equipped with some type of electric refrigeration.

No copies of the bacterial counts were available, as the owner desired to keep them for his records, but he stated that they have averaged about 15,000 bacteria per cc.

There is one creamery in the city, The Silverton Creamery. This is located within the city proper and produces various types of milk products. The general appearance of the place is that of cleanliness, and all of the cans and other utensils are sterilized by means of steam. The creamery receives the raw products from several of the dairies and also buys directly from the individual farmers who only have a small number of cows. All of their products are pasteurized and they are subject to regular inspection by the state health authorities.
CHAPTER VIII.

Sanitary Nuisances.

The general sanitary conditions of the city are good. There are no sources of odors which are offensive to the public, except for the ordinary taints of industry.

There is a moderate amount of cinders and dust from the large sawmill located here, although the burner used is thoroughly screened. The amount of material deposited is not of sufficient quantity to cause any great nuisance, however. The smoke which ensues from the sawmill is not troublesome to the city proper because of its location at some distance from the town.

The general cleanliness of the town is good, as visible from the exterior. As mentioned in a previous paragraph, there should be more adequate control and supervision of the receptacles and the collection of the garbage of the individual homes. The vacant lots are, for the most part, free from debris and the grass is kept cut. The city streets are kept very clean under the supervision of the street cleaning department.

There are a few mosquitoes in the town in the summer time, due to the low water of the stream which flows through the town, and principally to the large 30 acre mill pond. The mill authorities, however, take the precaution of adding oil to the pond at regular intervals. There are few breeding
places for the mosquitoes except in these two places.

The stables and the manure deposits within the city limits are in good condition. The disposal of these is up to the individual and in most instances is accomplished by burning. Of the several places visited not one could be considered a nuisance.

There are no unnecessary noises in the town to disturb the inhabitants. The industries are located at such a distance from the main part of town that the noise element is of no consequence in the life of the city.

There are no piggeries located within the city limits.

The sanitary nuisances of the city of Silverton are probably less than in any of its size in the country. Due to the location and type of the industries, they play only a very small part in producing detrimental living conditions. The conditions surrounding the individual resident of the city are for the most part dependent upon him, and to one who makes a more than casual observation, it seems that the residents of this town are adherents of the principles of cleanliness and sanitation.
CHAPTER IX.

Schools.

The schools of the city of Silverton are good examples of the modern trend in education and proper housing and playground facilities for the school children. The schools of the town are three in number, a high school, a junior high school, and a grade school. All of the buildings are of modern fireproof construction and are placed in a triangular unit comprising two city blocks. The intervening street between the schools is roped off at all times during school hours and the surrounding streets are effectively patrolled during the playground hours. There is a large sawdust covered playground for the grade school, which has an area covered by suitable shelter, for play during the inclement weather. All of the buildings are well lighted and all are provided with adequate fire escapes. The desks are large and provide ample room for the pupil's comfort. Physical education plays an important part in the routine schedule of all of the grades and competent instructors are maintained to insure the student's physical as well as mental development.

The Eugene Field Grade School, which is the newest and most modern of the group of school buildings, represents the latest in school room facilities. It is a stucco, one story structure containing twenty rooms. All of these are provided with ample lighting facilities and contain comfortable desks.
The heating of the building is conducted through a central unit which provides an even and optimum temperature at all times. There is a spacious playground adjoining the building and approximately one-half of this is covered. The playground is provided with all types of gymnastic apparatus, play chutes, etc. In addition to the out-of-door playground, there is a large gymnasium in connection, which is also utilized by the other two schools.

In addition to the public school system there are two denominational schools present. One of these, the Parochial School, is housed in a large three story building which is quite obsolete. The facilities for fire protection and for lighting and heating are not as adequate as they should be. The other of these private schools is the Seventh Day Adventist school, which is contained in a two-room wooden building. The facilities here also are hardly of the most desirable type.

The health of the school children is safeguarded by periodic health examinations. These are conducted through the Marion County Health Association, and consist of examinations of all children who are just entering. The clinics are conducted by Dr. Douglass and the County Health Nurse and the results of the examinations are kept on record in the office of the county health officer. Any defects or recommendations are written on provided blanks and sent to the parents. These are then referred by them to the family phy-
sician and rechecked at a later date by the county officials. In addition to these periodic examinations the office of the county health association in Salem is always open to parents who desire to have their children examined in the interim. Toxin-antitoxin and vaccines are provided by the county officials and are administered at a minimal cost to the parents.

Children are excluded from school for the following diseases: Influenza, Smallpox, Scarlet Fever, Measles, Chicken Pox, Pertussis, Mumps, Diphtheria, Erysipelas, Typhoid Fever and Impetigo. When a child contracts a contagious or infectious disease, there must be a written statement from the family physician on provided blanks, that the child is now free from the disease before it may return to school.

The method of health examination and control of the communicable diseases in school children seems to be a most satisfactory one. Many defects are detected by the county physician and the school nurses in their examinations and these are then corrected by the family physician. All matters which may be of detriment to the child's health are thus eliminated and there has been a spirit of marked cooperation on the part of the parents to comply with all recommendations made.
CHAPTER X.

Industrial Hygiene.

The industries of the city, in general, present no very great problems as far as the hygiene of the workers is concerned. All of the larger factories and workshops are adequately inspected by the state authorities and all of them maintain a high standard of safety and suitable surroundings for the men employed.

A visit was made to the Silver Falls Lumber Mill, located on the outskirts of the town. This plant is a typical modern sawmill and is the principle industry of the town. It has an expanse of 25 acres and has a capacity of 125,000 feet in eight hours running. Employment is furnished to about 500 men per annum in the mill and about 450 men in the logging camps located at the head waters of the Abiqua and Silver creeks.

There are naturally the unavoidable hazzards that are present in any mill; however, in this mill the power is all in the form of electricity which reduces the necessary number of belts and pulleys. All fast moving saws and cog wheels are protected by guards. Screens protect the workmen from flying fragments of wood and sawdust.

The workmen are protected through accident insurance which furnishes hospital and medical service. This industry, because of its size and nature, contributes greatly to the accident list of the city but it furnishes also the sustaining payroll to many families of Silverton.
This plant impresses one as an efficiently handled and safely conducted modern, up-to-date, prospering industry.
CHAPTER XI.

Housing.

The general housing conditions of the city are good. Because of the size of the town and the class of people residing in it, the question of living conditions is not an important one. Practically all of the families live in individual houses and are not crowded into the usual tenements and apartment houses. Most of the houses are provided with properly piped water, electric lights and with proper methods of sewage and waste disposal.

Because of the fact that there are no real tenements in the town, a visit was made to one of the apartment houses. This proved to be a modern, fireproof building of brick construction which offered all of the modern conveniences. The individual rooms were well lighted and airy and all were furnished with proper lighting facilities. Both gas and electricity are provided for cooking facilities. Refrigeration is accomplished either by means of ice cooled refrigerators or modern electrical appliances.

The living and housing conditions of the city are very well adapted to the health and proper environment of the people of the community.
CHAPTER XII.

Communicable Diseases.

The control of communicable diseases in the city of Silverton is placed in the hands of the City and the County Health officers. Much of this work is carried out through the activities of the health units connected with the city schools. The City Health Officer through the individual physicians of the city is responsible for the actual enforcement of the quarantine regulations.

The following diseases are those which are considered as communicable:

- Diphtheria
- Chicken Pox
- Measles
- German Measles
- Pertussis
- Mumps
- Scarlet Fever
- Small Pox
- Poliomyelitis
- Typhoid Fever

During the course of all these infectious diseases, proper care must be given to the care of the excreta and to the sterilization of all articles used in the sick room. All clothing, sheets, pillow cases, etc., which have been in contact with the patient should be boiled. All furniture in the sick room should be exposed to the sunlight and then thoroughly cleaned and oiled. The floors should be completely washed and scrubbed. If possible, the walls and the floors of the sick room should be renovated and repainted.

The patient who has the disease should be kept as clean as possible, both during and immediately following the disease. The hair should be thoroughly cleansed and the hands scrubbed in some disinfectant solution. Fumigation of the
articles in the room has not proven very successful. Books and other articles should be exposed to the sunlight for a proper time before their use by other members of the household.

The control of tuberculosis is accomplished only through advice to the patient and family and by reporting the cases to the State Board of Health. Any children in the family should be removed if possible, and should all receive the Von Pirquet test. If possible, the tuberculous individual should be removed to some sanitarium or institution. Proper instruction as to the care of the excreta, coughing, etc., should be given to the patient.

The only regulations pertaining to the control of venereal disease are those issued by the state board of Health requiring the reporting of these diseases by number. This regulation is very poorly observed by the physicians of the community.
CHAPTER XIII.

Miscellaneous.

The meat markets of the city are four in number and for the most part are kept in a very sanitary condition. All but one of the four are provided with cement floors and all have a very satisfactory method of refrigeration. The meat supply for two of the markets is from their own slaughter houses while the other two receive their products from a wholesale house in Salem. The blocks are cleaned and sterilized regularly and the floors are cleaned daily, then covered with a light sprinkling of sawdust. All of the meat which is displayed is kept in refrigerated covered glass cases, with the exception of the larger cuts which hang from hooks. Most of the latter are uncovered hooks. The markets are subject to inspection only from the state authorities, such inspections being made about twice a year. There are no local provisions for the inspection of the markets.

One slaughter house was visited and it proved to be in a very sanitary condition. The floors, although composed of wood, were very clean. There was no method of refrigeration in the plant but the manager stated that the meat was transported to the city immediately after being slaughtered. The grounds in the immediate vicinity were fairly clean and free from debris. The utensils used in slaughtering were sterilized after being used.
The soda fountains of the city are subject to regular inspection and rating by state authorities. Cleanliness of the utensils and containers is necessary to obtain a license. Most of the fountains in this city are very sanitary. The majority of them are provided with their own electric refrigeration and everything is kept at an even temperature. Two of the plants inspected have their own ice-cream plant. Both of these proved to be clean and free from any source of contamination of their products.

The cold storage plants of the city are mainly in the meat markets. All of these were of the electric type and seemed to be very satisfactory.

The eating places of the town are not of the best type. The largest of the restaurants is provided with a very small kitchen which is rather dirty and ill kept. The floor is of wood construction and poorly scrubbed. The utensils used are clean and the storage of food seems to be good, as it is provided with electric storage plants. Two pool parlors of the town serve refreshments and are in a very deplorable condition. The places themselves are dirty, poorly lighted and are quite unkempt. The utensils used are rather dirty and flies are rather numerous about the site of serving the food. Both of these places should be thoroughly cleaned and proper measures for the storage and serving of food should be instituted. There is one hotel in the city and this is
rather small. The rooms seem to be clean and neatly kept.

The barber shops are very clean and neat. Practically all of them have proper methods of sterilization of their tools and the barbers themselves present a good appearance.
CHAPTER XIV.

Hospitals.

The city hospital consists of a fifteen room, wooden house, which contains about twenty beds. There are four nurses regularly employed to perform the routine work. The surgery is small and quite inadequate and the rooms are also small and poorly ventilated. The equipment is not of the best and should be greatly augmented. At the present time the hospital association is contemplating replacing this structure with a modern brick structure of thirty-five beds.
CHAPTER XV.

Other Health Activities.

There is no laboratory available to the physicians of the community except for the routine blood and urine work done by their office nurses and by the hospital. Most of the material is sent either to the State Board of Health laboratory in Portland or to private laboratories in Salem.

The district nursing of the city is maintained by the County health nurse who makes periodic visits to the schools and to other parties who require medical advice. The work of the county health nurse is, however, carried on mainly through the schools.

There are no social service organizations in the town save for the Parent Teacher Association and the Women's Club. Both of these organizations accomplish a great deal by their philanthropic work, but there is no actual organization for such purposes.

There are no regulations within the city for the control of food and drugs save those provided for by state legislation, and carried out by state authorities.
CHAPTER XVI.

Summary and Conclusions.

The preceding sanitary survey of the city of Silverton reveals the facts that the general conditions of living and of sanitation and hygiene in the city are on the whole quite good. There are no real important detrimental factors in any of the institutions investigated which prevent a healthful and prosperous existence in this community.

The following criticisms and recommendations are made, based upon the knowledge of the conditions gleaned from this survey.

1. That the residents of the city should be commended for the general appearance of the city in regard to the streets and the comparative amount of paving, the condition of the individual homes and lawns and the general spirit of progress which seems to prevail in the city.

2. The water supply.

   1. The author feels that the total water supply is not quite adequate for the needs of the city at all times of the year and that this could be corrected by a larger and supplementary reservoir to replace the older one now in use.

   2. An inspection and scrutiny of the pipe lines which carry the water from the intakes to the reservoirs should be made to detect any possible sources of contamination, because of the fact that these wooden pipe lines have been in use for so many years.
3. The Sewage System.

1. The storm and the sanitary components of the sewage system should be combined and enlarged, with especial attention to the former to prevent any overflow during the winter months.

2. The city should incorporate in the legal statutes, some provisions for the control and inspection of the private methods of excreta disposal.


1. The city should adopt legal measures governing the collection and disposal of garbage, with special emphases upon the types of containers, regular collections and their disposal.

2. If possible the city should provide an incinerator in which to burn the refuse and garbage.


1. The author makes no recommendation for the collection and preparation of vital statistics except to encourage the individual physicians of the community to promptly report those diseases and statistics, which are of importance, to the State Board of Health.


1. The milk situation in general requires no comment, inasmuch as the conditions of collection and handling seem to be adequate for proper protection of the health of the community. I do feel, however, that the city should regularly inspect the dairies and retailers, by means of regular visits of the city Health Officer.
7. Sanitary Nuisances.
   1. The city should provide a regular and efficient means of collecting all refuse, dumps, etc.
   2. The mill pond of the Silver Falls Timber Company should be regularly inspected during the Spring and Summer months for the presence of mosquitoes, and the use of oil on this water should be maintained each year as often as required.

8. Communicable Diseases.
   1. I recommend the establishment of a Health commission of the city council which would have for its function the establishment of further laws governing the individual diseases which might occur in the community and which would also work with the City Health Officer in the more strict enforcement of quarantine and isolation measures.
   2. The physicians of the town should be encouraged to report all diseases to the State Board of Health.

9. Schools.
   1. The city is commended upon the high type of schools maintained, and upon the healthful conditions which are provided for the children.
   2. The Marion County Health Unit is also commended for the very marked efficiency of the periodic health examinations and its work in the prevention and correction of serious physical defects.

10. Miscellaneous.
   1. The city Health Officer should regularly inspect
the food kitchens and the eating places of the community. Two of those investigated were found to be in a rather poor condition, and measures should be taken to correct the sanitary errors which prevailed.

2. I feel that a city of this size should have an organization for the prevention of Tuberculosis, and that such an organization should be formed and affiliated with the national and state societies.

3. I recommend that regular analyses of the water in the city swimming pool be made during the summer months, and that any improper conditions be corrected as soon as discovered.

4. I feel that the establishment of a city planning commission to care for the future growth and development of the city, would be of decided value in the city's welfare and progress.

In conclusion, the author wishes to commend the city of Silverton upon the good sanitary conditions, the good appearance of the city and the general surroundings of a healthful nature which the city possesses, and to state that I feel it compares favorably with any of the other cities of the State.